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OF INDIA

VOL. XX

PĀRDI TO PUSAD

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INTRODUCTORY NOTES

Notes on Transliteration

Vowel-Sounds

a has the sound of *a* in 'woman.'
ā has the sound of *a* in 'father.'
e has the vowel-sound in 'grey.'
i has the sound of *i* in 'pin.'
ī has the sound of *i* in 'police.'
o has the sound of *o* in 'bone.'
u has the sound of *u* in 'bull.'
ū has the sound of *u* in 'flute.'
ai has the vowel-sound in 'mine.'
au has the vowel-sound in 'house.'

It should be stated that no attempt has been made to distinguish between the long and short sounds of *e* and *o* in the Dravidian languages, which possess the vowel-sounds in 'bet' and 'hot' in addition to those given above. Nor has it been thought necessary to mark vowels as long in cases where mistakes in pronunciation were not likely to be made.

Consonants

Most Indian languages have different forms for a number of consonants, such as *d*, *t*, *r*, &c., marked in scientific works by the use of dots or italics. As the European ear distinguishes these with difficulty in ordinary pronunciation, it has been considered undesirable to embarrass the reader with them; and only two notes are required. In the first place, the Arabic *k*, a strong guttural, has been represented by *k* instead of *q*, which is often used. Secondly, it should be remarked that aspirated consonants are common; and, in particular, *dh* and *th* (except in Burma) never have the sound of *th* in 'this' or 'thin,' but should be pronounced as in 'woodhouse'

Burmese Words

Burmese and some of the languages on the frontier of China have the following special sounds :—

aw has the vowel-sound in 'law.'

ö and ü are pronounced as in German.

gy is pronounced almost like *j* in 'jewel.'

ky is pronounced almost like *ch* in 'church.'

th is pronounced in some cases as in 'this,' in some cases as in 'thin.'

w after a consonant has the force of *uw*. Thus, *ywa* and *pwe* are disyllables, pronounced as if written *yuwa* and *puwe*.

It should also be noted that, whereas in Indian words the accent or stress is distributed almost equally on each syllable, in Burmese there is a tendency to throw special stress on the last syllable.

General

The names of some places—e.g. Calcutta, Bombay, Lucknow, Cawnpore—have obtained a popular fixity of spelling, while special forms have been officially prescribed for others. Names of persons are often spelt and pronounced differently in different parts of India; but the variations have been made as few as possible by assimilating forms almost alike, especially where a particular spelling has been generally adopted in English books.

NOTES ON MONEY, PRICES, WEIGHTS AND MEASURES

As the currency of India is based upon the rupee, all statements with regard to money throughout the *Gazetteer* have necessarily been expressed in rupees, nor has it been found possible to add generally a conversion into sterling. Down to about 1873 the gold value of the rupee (containing 165 grains of pure silver) was approximately equal to 2*s*., or one-tenth of a £; and for that period it is easy to convert rupees into sterling by striking off the final cipher (Rs. 1,000 = £100). But after 1873, owing to the depreciation of silver as compared with gold throughout the world, there came a serious and progressive fall in the exchange, until at one time the gold value of the rupee dropped as low as 1*s*. In order to provide a remedy for the heavy loss caused to the Government of India in respect of its gold payments to be made in England, and also to relieve foreign trade and finance from the inconvenience due to constant and unforeseen fluctuations in exchange, it was resolved in 1893 to close the mints to the free coinage of silver, and thus force up the value of the rupee by restricting the circulation. The intention was to raise

the exchange value of the rupee to 1*s.* 4*d.*, and then introduce a gold standard (though not necessarily a gold currency) at the rate of Rs. 15 = £1. This policy has been completely successful. From 1899 onwards the value of the rupee has been maintained, with insignificant fluctuations, at the proposed rate of 1*s.* 4*d.*; and consequently since that date three rupees have been equivalent to two rupees before 1873. For the intermediate period, between 1873 and 1899, it is manifestly impossible to adopt any fixed sterling value for a constantly changing rupee. But since 1899, if it is desired to convert rupees into sterling, not only must the final cipher be struck off (as before 1873), but also one-third must be subtracted from the result. Thus Rs. 1,000 = £100 − $\frac{1}{3}$ = (about) £67.

Another matter in connexion with the expression of money statements in terms of rupees requires to be explained. The method of numerical notation in India differs from that which prevails throughout Europe. Large numbers are not punctuated in hundreds of thousands and millions, but in lakhs and crores. A lakh is one hundred thousand (written out as 1,00,000), and a crore is one hundred lakhs or ten millions (written out as 1,00,00,000). Consequently, according to the exchange value of the rupee, a lakh of rupees (Rs. 1,00,000) may be read as the equivalent of £10,000 before 1873, and as the equivalent of (about) £6,667 after 1899; while a crore of rupees (Rs. 1,00,00,000) may similarly be read as the equivalent of £1,000,000 before 1873, and as the equivalent of (about) £666,667 after 1899.

Finally, it should be mentioned that the rupee is divided into 16 annas, a fraction commonly used for many purposes by both natives and Europeans. The anna was formerly reckoned as 1½*d.*; it may now be considered as exactly corresponding to 1*d.* The anna is again subdivided into 12 pies.

The various systems of weights used in India combine uniformity of scale with immense variations in the weight of units. The scale used generally throughout Northern India, and less commonly in Madras and Bombay, may be thus expressed: one maund = 40 seers; one seer = 16 chittaks or 80 tolas. The actual weight of a seer varies greatly from District to District, and even from village to village; but in the standard system the tola is 180 grains Troy (the exact weight of the rupee), and the seer thus weighs 2·057 lb., and the maund 82·28 lb. This standard is used in official reports and throughout the *Gazetteer*.

For calculating retail prices, the universal custom in India is to express them in terms of seers to the rupee. Thus, when prices change what varies is not the amount of money to be paid for the

same quantity, but the quantity to be obtained for the same amount of money. In other words, prices in India are quantity prices, not money prices. When the figure of quantity goes up, this of course means that the price has gone down, which is at first sight perplexing to an English reader. It may, however, be mentioned that quantity prices are not altogether unknown in England, especially at small shops, where pennyworths of many groceries can be bought. Eggs, likewise, are commonly sold at a varying number for the shilling. If it be desired to convert quantity prices from Indian into English denominations without having recourse to money prices (which would often be misleading), the following scale may be adopted – based upon the assumptions that a seer is exactly 2 lb., and that the value of the rupee remains constant at 1*s.* 4*d.*: 1 seer per rupee = (about) 3 lb. for 2*s.*; 2 seers per rupee = (about) 6 lb. for 2*s.*; and so on.

The name of the unit for square measurement in India generally is the *bīgha*, which varies greatly in different parts of the country. But areas have always been expressed throughout the *Gazetteer* either in square miles or in acres.

MAP

IMPERIAL GAZETTEER OF INDIA

VOLUME XX

Pārdi Tāluka.—Southernmost *tāluka* of Surat District, Bombay, lying between 20° 17′ and 20° 32′ N. and 72° 50′ and 73° 7′ E., with an area of 163 square miles. It contains one town, PĀRDI (population, 5,483), the head-quarters; and 81 villages. The population in 1901 was 61,691, compared with 58,245 in 1891. Land revenue and cesses in 1903–4 amounted to nearly 1½ lakhs. The *tāluka* adjoins the Portuguese territory of Damān, and is for the most part an undulating plain sloping westwards to the sea. The fields are, as a rule, unenclosed. Pārdi is divided into an infertile and a fertile region by the Kolak river. Its climate has a bad reputation. The annual rainfall, averaging 72 inches, is the heaviest in the District.

Pārdi Town.—Head-quarters of the *tāluka* of the same name in Surat District, Bombay, situated in 20° 31′ N. and 72° 57′ E., on the Bombay, Baroda, and Central India Railway. Population (1901), 5,483. The town contains a dispensary and three schools, two (including an English school) for boys and one for girls, attended respectively by 230 and 94 pupils.

Parenda Tāluk.—Crown *tāluk* in the west of Osmānābād District, Hyderābād State, with an area of 501 square miles. The population in 1901, including *jāgīrs*, was 59,685, compared with 71,860 in 1891, the decrease being due to the famine of 1900. The *tāluk* contains 112 villages, of which 6 are *jāgīr*, and PARENDA (population, 3,655) is the head-quarters. The land revenue in 1901 amounted to 1·8 lakhs. The soil is chiefly *regar* or black cotton soil.

Parenda Village.—Head-quarters of the *tāluk* of the same name in Osmānābād District, Hyderābād State, situated in 18° 16′ N. and 75° 27′ E. Population (1901), 3,655. The fort, erected by Mahmūd Gāvān, the celebrated Bahmani minister, contains several large guns mounted on bastions. Parenda was the capital of the Nizām Shāhis for a short time after the capture of Ahmadnagar by the Mughals in 1605. It was besieged unsuccessfully by Shāh Jahān's general in 1630. It was, however, reduced by Aurangzeb during his viceroyalty of the

Deccan. The fortifications are in good order, but the old town is in ruins. Numerous ruins in the neighbourhood and the fort testify to the former populousness of the place. It now possesses a *tahsīl* and police inspector's office, a custom station, a school, and a *tāluk* post office.

Parganas, The Twenty-four.—District in Bengal. *See* TWENTY-FOUR PARGANAS.

Pārghāt.—Old pass or route across the Western Ghāts in Bombay, leading from Sātāra District to Kolāba. Two villages, Pār Pār or Pār Proper and Pet Pār, situated 5 miles west of Mahābaleshwar and immediately south of Pratāpgarh, give their name to and mark this old route into the Konkan, which goes straight over the hill below Bombay Point, and winds up a very steep incline with so many curves that it was named by the British the Corkscrew Pass. Passing through the two Pārs, the farther line of the Western Ghāts is descended by an equally steep path to the village of Pārghāt in Kolāba District. This route was maintained practicable for cattle and the artillery of the period from very early times, and toll stations for the levy of transit duties as well as for defence were stationed at various points. Afzal Khān, the Muhammadan general of the Sultān of Bijāpur, brought his forces by this pass to the famous interview at Pratāpgarh, where he was murdered by Sivajī. Until the building of the Kumbhārli road in 1864 and the Fitzgerald Pass road in 1876, the Pārghāt was the only highway leading from Sātāra to the Konkan.

Pargi.—*Tāluk* in Mahbūbnagar District, Hyderābād State, with an area of 220 square miles. The population in 1901, including *jāgīrs*, was 31,425, compared with 22,008 in 1891. It contains 71 villages, of which 22 are *jāgīr*. Pargi (population, 2,361) is the head-quarters. The land revenue in 1901 was Rs. 48,000. In 1905 this *tāluk* was enlarged by the addition of villages from the Koilkonda and Jedcherla *tāluks*, and now contains 114 *khālsa* villages.

Parīchhatgarh.—Town in the Mawānā *tahsīl* of Meerut District, United Provinces, situated in 28° 59′ N. and 77° 57′ E., 14 miles east of Meerut city. Population (1901), 6,278. The fort round which the town is built lays claim to great antiquity; tradition ascribes its construction to Parīkhshit, grandson of Arjuna, one of the five Pāndava brethren in the Mahābhārata, to whom is also attributed the foundation of the town. The fort was restored by Rājā Nain Singh on the rise of Gūjar power in the eighteenth century. It was dismantled in 1857, and is now used as a police station. The town is administered under Act XX of 1856, with an income of about Rs. 1,700. The trade is local. There are branches of the Church Missionary Society and the American Methodist Mission, and two primary schools.

Parkāl.—*Tāluk* in Karīmnagar District, Hyderābād State, with an

area of 654 square miles. The population in 1901, including *jāgīrs*, was 84,228, compared with 74,048 in 1891. The *tāluk* contains 117 villages, of which 5 are *jāgīr*; and Ambāl (population, 1,849) is the head-quarters. The land revenue in 1901 was 3·1 lakhs. Rice is extensively raised by tank-irrigation.

Parlākimedi Estate.—The largest permanently settled impartible estate in Ganjām District, Madras, lying in the west of the District, with an area of 614 square miles, and a population (1901) of 256,414. In 1903 the *peshkash* and cesses amounted to Rs. 1,05,900.

The Rājā claims descent from the Orissa Gajapatis. The whole Kimedi country, consisting of the present *zamīndāris* of Parlākimedi, Peddakimedi, and Chinnakimedi, was under one ruler until 1607; but in that year the Kimedi Rājā allotted Peddakimedi and Chinnakimedi to his younger son, whose descendants subsequently divided them into the two existing *zamīndāris* of those names. The British first came into contact with the Parlākimedi family in 1768, when Colonel Peach led a detachment against Nārāyana Deo, the *zamīndār*, and defeated him at Jalmūr. In 1799 the Company temporarily assumed control of the estate for breach of an engagement. Restored to the family, this difficult country was the scene of continued disturbances for many years. In 1816 it was ravaged by Pindāris; in 1819 it was found necessary to send a Special Commissioner, Mr. Thackeray, to quell a rising in it; while in 1833 a field force was sent under General Taylor, and peace was not finally restored till 1835. No further disturbance took place for twenty years, but in 1856–7 the employment of a small body of troops was again necessary to restore order.

The estate was under the management of the Court of Wards from 1830 to 1890, owing to the incapacity of two successive Rājās. When the estate was taken under management there was no money in hand and the *peshkash* was heavily in arrear. During the management considerable improvement was effected in its condition, a survey and settlement being made, good roads constructed, sources of irrigation improved at a cost of 29 lakhs, and cultivation greatly extended; the income rose from Rs. 1,40,000 to Rs. 3,86,000, and the cash balance in 1890 amounted to nearly 30 lakhs. The Rājā who then succeeded has recently died, and the estate is again under the management of the Court.

Parlākimedi is singularly favoured by nature, the soil being fertile and irrigation available from the Vamsadhāra and Mahendratanaya rivers, a channel from the latter, and many large tanks. The lands are lightly assessed, and the ryots are much better off than in the other *zamīndāris* of the District.

There are 120 miles of metalled road in the estate. A light railway of 2 feet 6 inches gauge, 25 miles in length, was constructed by the

late Rājā at a cost of 7 lakhs from Naupada, a station on the East Coast Railway, to PARLĀKIMEDI, the chief town of the *zamīndāri*. This is the first work of the kind undertaken by a private individual in Southern India. Besides its capital, the chief places in the estate are MUKHALINGAM, a place of pilgrimage, and Pātapatnam, Battili, and Hiramandalam, which are centres of trade.

Parlākimedi Tahsīl.—Westernmost *zamīndāri tahsīl* in Ganjām District, Madras, lying between 18° 31′ and 19° 6′ N. and 83° 49′ and 84° 25′ E., with an area of 972 square miles. The population in 1901 was 311,534, compared with 304,359 in 1891. The *tahsīl* contains one town, PARLĀKIMEDI (population, 17,336), the head-quarters; and 1,015 villages. The demand for land revenue and cesses in 1903–4 was Rs. 1,16,000. The *tahsīl* consists of the PARLĀKIMEDI ESTATE, which is described separately, and the Parlākimedi Māliahs. The latter are attached to the estate and are chiefly inhabited by Savaras. They have an area of 358 square miles, and contained a population in 1901 of 55,120, compared with 52,302 in 1891. They consist of the forts (as the head-quarters villages are termed) and *muttahs* (groups of villages) of the ten Bissoyis, or hill chiefs. Of their 348 villages, 122 are situated below the Ghāts and the rest above. In 1894 the Rājā of Parlākimedi brought a suit in the Agent's court to obtain possession of these Māliahs and won his case. On appeal it was held by the High Court that he had no right to any portion of them. A further appeal to the Privy Council was dismissed, and the Government has ordered the introduction of a *ryotwāri* settlement in the 122 villages below the Ghāts. The Bissoyis hold the *muttahs* as service *ināmdārs*, on condition of keeping order in the hill tracts and maintaining an establishment of *sardārs* and *paiks*. The latter may be described as the rank and file, and the former as the titular commanders of a semi-military force which the Bissoyis employed in olden days to overawe the Savaras, and to garrison posts at the passes as a check upon their irruptions into the low country. The Bissoyis pay a quit-rent called *kattubadi*, and this was included in the assets on which the *peshkash* of the Parlākimedi *zamīndāri* was fixed. They collect *māmūls* (customary fees), which were settled and fixed in 1881, from the Savaras. The Māliahs contain considerable forests, in which is some good *sāl* (*Shorea robusta*). The highest point in them is Devagiri, 4,535 feet above the sea.

Parlākimedi Town.—Chief place in the *zamīndāri* and *tahsīl* of the same name in Ganjām District, Madras, situated in 18° 47′ N. and 84° 5′ E., 25 miles from the Naupada station on the East Coast Railway by the 2 ft. 6 in. railway which the late Rājā constructed to meet the main line there. The town stands in the midst of picturesque scenery, being situated in an amphitheatre of hills with beautiful tanks

adjoining it. Its population is increasing rapidly, and in 1901 amounted to 17,336. The chief buildings are the palace, constructed for the Rājā from designs by a former Government architect at a cost of 6 lakhs, and a second-grade college, maintained entirely by the Rājā, which has a hostel attached to it. In 1903–4 the college had an average attendance of 488 students, of whom 40 were reading in the F.A. classes. The Rājā also maintains a girls' school and a resthouse for native travellers. Parlākimedi was constituted a municipality in 1886. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 15,000 and Rs. 14,000 respectively. In 1903–4 they were Rs. 17,000. Most of the income is derived from taxes on houses and lands, and tolls. Fine mats, fancy baskets, flower-stands, cheroot-cases, &c., are made here from a species of reed. The chief trade is in rice.

Parli Fort (or Sajjangarh).—Fort in the District and *tāluka* of Sātāra, Bombay, situated in 17° 40′ N. and 73° 55′ E., on a detached spur of the Western Ghāts, about 6 miles west of Sātāra town, and 1,045 feet above the plain. Population (1901), 1,287. The fort was built by one of the kings of Delhi in the thirteenth century. Parli was the favourite residence of Rāmdās Swāmi (1608–81), the spiritual guide or *gurū* of Sivajī (1627–80), who gave it to the Swāmi in *inām*. The local tradition is that, if Sivajī in Sātāra required counsel from Rāmdās, the Swāmi reached Sātāra through the air in a single stride. The temple of Rāmdās is in the middle of the village, surrounded by the dwellings of his disciples. The temple of basalt with a brick-and-mortar dome was built by Akā Bai and Divākar Gosavi, two disciples of the Swāmi. A yearly fair, attended by about 6,000 people, is held in February. On the north-west of Parli village are two old Hemādpanti temples. The existence of these makes it probable that a fort had been constructed before Musalmān times. It was subsequently occupied by them, and surprised by a detachment of Sivajī's Māvalis in May, 1673. A few days before his death in 1681 Rāmdās Swāmi addressed from Parli a judicious letter to Sambhājī, advising him for the future rather than upbraiding him for the past, and pointing out the example of his father, yet carefully abstaining from personal comparison. In 1699, when the Mughals were besieging Sātāra, Parshurām Trimbak Pratinidhi prolonged the siege by furnishing supplies from Parli. After the capture of Sātāra in April, 1700, the Mughal army besieged Parli. The siege lasted till the beginning of June, when the garrison evacuated the fortress. Aurangzeb renamed it Naurastāra. In a revenue statement of about 1790 Parli appears as the head-quarters of a *pargana* in the Nahisdurg *sarkār*, with a revenue of Rs. 22,500. In 1818 it was taken by a British regiment.

Parli Town.—Town in the Amba *tāluk* of Bhīr District, Hyderābād

State, situated in 18° 51′ N. and 76° 33′ E., 14 miles north-east of Amba, at the foot of the spur of hills passing through the *tāluk*. Population (1901), 7,289. The temple of Baijnāth, built on a hill to the west of the town, is an important place of pilgrimage. Parli is a centre of the cotton trade, and contains a ginning-mill employing 50 hands daily.

Parmagudi.—*Zamīndāri tahsīl* and town in Madura District, Madras. *See* PARAMAGUDI.

Pārner Tāluka.—*Tāluka* in Ahmadnagar District, Bombay, lying between 18° 50′ and 19° 21′ N. and 74° 11′ and 74° 44′ E., with an area of 727 square miles. It contains 117 villages, including PĀRNER (population, 5,300), the head-quarters. The population in 1901 was 72,617, compared with 79,093 in 1891. The density, 100 persons per square mile, is much below the District average. The demand for land revenue in 1903–4 was 1·3 lakhs, and for cesses Rs. 10,000. The surface of Pārner is very irregular and hilly, consisting of a series of plateaux of various heights. The highest is the Kānhur or central plateau, formed by the widening out of the summit of one of the spurs of the Western Ghāts, which traverses the *tāluka* from north-west to south-east. The average height of the central plateau is about 2,800 feet above sea-level, though some points on it are 300 feet higher. On the whole, the water-supply is fairly good. Many of the smaller streams have a perennial flow.

Pārner Village.—Head-quarters of the *tāluka* of the same name in Ahmadnagar District, Bombay, situated in 19° N. and 74° 26′ E., 20 miles south-west of Ahmadnagar city and 15 miles west of Sārola station on the Dhond-Manmād Railway. Population (1901), 5,300. Pārner contains numerous money-lenders, chiefly Mārwāris, with a bad name for greed and fraud. In 1874–7 disturbances arose between the husbandmen and the money-lenders. The villagers placed the money-lenders in a state of social outlawry, refusing to work for them, to draw water, supply necessaries, or shave them. The watchfulness of the police saved Pārner from a riot. Near the camping-place, at the meeting of two small streams, is an old temple of Sangameshwar or Trimbakeshwar. The village contains a Sub-Judge's court and a dispensary.

Pārnera Hill.—Hill in Surat District, Bombay, situated in 20° 34′ N. and 72° 57′ E., 4 miles south-east of Bulsār, and 120 miles north of Bombay, rising to a height of about 500 feet above the plain. From its commanding position the fortified summit has long been considered a place of consequence. Originally a Hindu fort, it remained under the Rājā of Dharampur, till, about the end of the fifteenth century. it was taken by Mahmūd Begara, Sultān of Gujarāt (1459–1511), The fort remained for some time under the charge of Musalmān

commanders, but in the disorders that marked the close of the power of the Ahmadābād kings it fell into the hands of a chief of banditti. According to a Portuguese writer, Pārnera was twice (in 1558 and 1568) taken by expeditions from Damān, and on the second occasion the fortifications were destroyed. After it had been in ruins for more than a hundred years, the fort was, in April, 1676, taken and rebuilt by Moro Pandit, one of Sivaji's generals. For about a century Pārnera remained under the Marāthās. It was then (1780) taken by a detachment of English troops under Lieutenant Welsh. At first, as a protection against the raids of Pindāris, the fort was occupied by a military detachment; but early in the nineteenth century the garrison was removed, and during the Mutiny of 1857 the fort was dismantled.

Paro.—Town in the State of Bhutān, situated in 27° 23′ N. and 89° 27′ E. Paro is the head-quarters of the Paro Penlop, the governor of Western Bhutān.

Pārola.—Town in the Amalner *tāluka* of East Khāndesh District, Bombay, situated in 20° 53′ N. and 75° 7′ E., 22 miles west of Mhasvād on the Great Indian Peninsula Railway. Population (1901), 13,468. Pārola has been a municipality since 1864, with an average income during the decade ending 1901 of Rs. 8,700. In 1903–4 the income was Rs. 9,800. It is said to have been raised by its proprietor, Hari Sadāshiv Dāmodar, from the position of a small village of fifty houses to that of a walled town. He is also said to have built, about 1727, the spacious fort, one of the finest architectural remains of the kind in Khāndesh. It must have been at one time a very strong place; it is surrounded by a moat, and the entrance was formerly protected by a drawbridge and large flanking towers. During the Mutiny in 1857, the proprietors proved disloyal, and their estate was confiscated, the town being taken possession of by Government, and the fort dismantled. A considerable trade is carried on in cattle, cotton, *lugdas* (women's robes), and grain; and the village of Mhasva, 2 miles distant, is famous for *ghī*. The town contains two cotton-gins, a cotton-press, a dispensary, and five schools, with 620 pupils, of which one, with 54 pupils, is for girls. Four miles south-west is a handsome temple of Mahādeo on an island in the Bori river.

Pāron (or Narwar).—Mediatized chiefship in the Central India Agency, under the Resident at Gwalior. It is a minor State, about 60 square miles in area, surrounding the village of Pāron.

Though the holder is of very ancient family, being descended from the Kachwāha clan, of which the Mahārājā of Jaipur is now the principal representative, the present holding has only existed since 1818, the chief's ancestor having been driven from Narwar in the beginning of the nineteenth century by Daulat Rao Sindhia. In 1818, through the mediation of the Resident at Gwalior, the present

estate of Pāron was granted to Mādho Singh under the British guarantee, on the condition that he disbanded his army and ceased from plundering. When the Mutiny broke out in 1857, Mān Singh, nephew and successor of Mādho Singh, joined the rebels. His fort was assaulted and he was forced to fly. Seeing the turn events were taking, he surrendered in 1859, and was reinstated in his possessions. Later on he undertook to secure the rebel Tāntiā Topī, the Nāna Sāhib's agent, who was then wandering in these districts. After handing over Tāntiā Topī, an annuity of Rs. 1,000 was granted to him and his heirs in perpetuity. On his death on December 31, 1882, the Gwalior Darbār contended that the guarantee should lapse, owing to the chief's defection in 1857, a view which the Government of India declined to accept, and the succession was continued to his son, Gajendra Singh. The present holder is Rājā Mahendra Singh, who was born in 1892, and succeeded in 1899, the State being administered by a Kāmdār under the direct supervision of the Resident at Gwalior. The chief bears the title of Rājā. The population has been: (1881) 7,328, (1891) 7,984, and (1901) 5,557. Hindus number 4,562, or 82 per cent.; and Animists, 891, chiefly Sahariās and Mīnās. Of the total population, only 1 per cent. are literate. There are thirty-one villages, of which Munderī (population, 1,165) is the largest, though not that from which the State takes its name. The head-quarters of the present administration are situated in this place, and a school and a dispensary have been opened there.

Of the total area, 16 square miles are under cultivation, of which one square mile is irrigated; of the uncultivated area, 24 square miles are capable of cultivation. Good crops of all ordinary grains and poppy are grown. The total revenue is Rs. 25,000, of which Rs. 18,500 is derived from the land.

Pārsoli.—Chief place in an estate of the same name in the State of Udaipur, Rājputāna, situated in 25° 7′ N. and 74° 53′ E., about 84 miles north-east of Udaipur city. Population (1901), 831. The estate consists of 40 villages, and is held by a first-class noble of Mewār, who is termed Rao and is a Chauhān Rājput descended from the BEDLA family. The income is about Rs. 20,000, and a tribute of Rs. 740 is paid to the Darbār.

Partābgarh State (*Pratāpgarh*).—State in the south of Rājputāna, lying between 23° 32′ and 24° 18′ N. and 74° 29′ and 75° E., with an area of 886 square miles. It is bounded on the north and north-west by Udaipur; on the west and south-west by Bānswāra; on the south by Ratlām; and on the east by Jaorā, Sindhia's districts of Mandasor and Nīmach, and a detached portion of the Rāmpura-Bhānpura district of Indore. The greater portion of the State consists of fine open land; but the north-west is wild, rocky, and hilly, and

a range, which in places attains an elevation of 1,900 feet, forms the entire western boundary. There are no rivers of any importance; the Jākam, which is the largest, rises near Chhotī Sādri in Udaipur, flows through the north-west of the State, and eventually falls into the Som, a tributary of the Mahī.

Physical aspects.

A large proportion of Partābgarh is covered with Deccan trap, the denudation of which has exposed underlying areas of older rocks belonging to the Delhi system, such as shales, quartzites, and limestones, which in the west rest unconformably upon gneiss.

In addition to the usual antelope, gazelle, and small game, tigers, leopards, bears, *sāmbar* (*Cervus unicolor*), and *chītal* (*C. axis*) are to be found along the western border.

The climate is generally good and the temperature moderate. The annual rainfall, measured at the capital, averages a little over 34 inches. More than 63 inches fell in 1893, and less than 11 in 1899.

History.

The territory was formerly called the Kānthal, meaning the 'border' or 'boundary' (*kānthā*) between Mālwā and Gujarāt. The northern portion was inhabited by Bhīls and the rest by various Rājput clans, such as the Sonigaras (a branch of the Chauhāns) and the Dors or Dodas. The founder of the State was one Bīka, a descendant of Rānā Mokal of Mewār, who left his estates of Sādri and Dariāwad in 1553, proceeded south, and subdued the aboriginal tribes. In 1561 he founded the town of DEOLIA or Deogarh, naming it after a female chieftain called Devī Mīnī, and subsequently he overpowered the Rājputs living farther to the south and east. About sixty-five years later, one of his successors, Jaswant Singh, being considered dangerously powerful, was invited to Udaipur and treacherously murdered with his eldest son in the Champā Bāgh, whereupon the Kānthal was occupied by Mewār troops. Jaswant Singh's second son, Hari Singh, proceeded to Delhi about 1634, where, partly by the interest of Mahābat Khān, Jahāngīr's great general, and partly by his own skill and address, he got himself recognized as an independent chief by the emperor Shāh Jahān on payment of a tribute of Rs. 15,000 a year. He also received the rank of *Haft hazāri*, or 'commander of 7,000,' and the title of Rāwat or, as some say, Mahārāwat. On his return the Mewār garrison was expelled with the help of the imperial forces, and the whole country brought under subjection. Hari Singh's son, Pratāp Singh, who succeeded in 1674, founded the town of Partābgarh in 1698; and from it the State now takes its name, though some of the people still use the older name Kānthal, or, uniting the names of the former and the present capitals, call the State Deolia-Partābgarh. As recently as 1869 the chief was described in an extradition treaty then ratified as

the 'Rajah of Dowleah and Partabgurh.' In the time of Sāwant Singh (1775–1844) the country was overrun by the Marāthās, and the Mahārāwat only saved his State by agreeing to pay Holkar a tribute of *Sālim shāhi* Rs. 72,720, in lieu of Rs. 15,000 formerly paid to Delhi. The first connexion of the State with the British Government was in 1804; but the treaty then entered into was subsequently cancelled by Lord Cornwallis, and a fresh treaty, by which the State was taken under protection, was made in 1818. The tribute to Holkar is paid through the British Government, and in 1904 was converted to Rs. 36,360 British currency.

The chiefs subsequent to Sāwant Singh have been Dalpat Singh (1844–64), Udai Singh (1864–90), and Raghunāth Singh, who was born in 1859, succeeded by adoption in 1890, and was installed with full powers in 1891. He bears the titles of His Highness and Mahārāwat, and receives a salute of 15 guns.

Among places of archaeological interest are Jānāgarh, 10 miles south-west of the capital, with its old fort, in which some Mughal prince is said to have resided, and the remains of a mosque, bath, and stables; Shevnā, 2 miles east of Sālimgarh, which tradition says was the capital, Shivnagri, of a large state, and which must have been a fine city. Besides a fort it contains several temples, one of which, dedicated to Siva, is beautifully carved. At Virpur, near Sohāgpura, is a Jain temple said to be 2,000 years old, and old temples also exist at Bordia, 20 miles south of the capital, and at Ninor in the south-east; but none of these places has been professionally examined.

Population.

The number of towns and villages in the State is 413, and the population at each Census has been: (1881) 79,568, (1891) 87,975, and (1901) 52,025. The decrease of nearly 41 per cent. at the last enumeration was due partly to the famine of 1899–1900, followed by a disastrous type of fever, and partly, it is believed, to an exaggerated estimate of the Bhīls in 1891. The State is divided into the three *zilas* or districts of Partābgarh, Magrā, and Sāgthali, as shown below:—

Zila.	Number of		Population.	Number able to read and write.
	Towns.	Villages.		
Magrā	...	97	5,846	108
Partābgarh	1	144	32,166	1,666
Sāgthali	...	171	14,013	414
State total	1	412	52,025	2,188

The only town is PARTĀBGARH, the capital. More than 61 per cent. of the people are Hindus, 22 per cent. are Animist Bhīls, and 9 per cent. are Jains. The language mainly spoken is Mālwī or

Rāngrī. By far the most numerous tribe is that of the BHĪLS, the original inhabitants of the country, who in 1901 numbered 11,500. Next come the Mahājans (5,600), the Brāhmans (3,200), the Rājputs (3,200), the Kumhārs (3,000), and the Chamārs (2,600). About 51 per cent. of the population are dependent on agriculture.

The north-west (the Magrā district) is hilly and stony, and here maize is almost the only product; elsewhere the soil is excellent, being mostly black intermixed with a reddish-brown loam. The principal crops are wheat, sugar-cane, maize, *jowār*, gram, and barley. Poppy is extensively cultivated. The Bhīls largely practise the destructive form of shifting cultivation known as *wālar*, which is described in the article on BĀNSWĀRA STATE.

Agriculture.

Irrigation is mainly from wells, of which more than 2,000 are worked in the *khālsa* portion of the State; there are nine irrigation tanks, but they are old and out of repair, and the area watered from them is insignificant.

The hilly portions of the State are fairly well wooded, teak, blackwood, *pīpal* (*Ficus religiosa*), and *babūl* (*Acacia arabica*) being frequently met with, while the south produces sandal-trees, which are a State monopoly. There is no systematic forest conservancy, and the Bhīls burn the jungle for purposes of sport or agriculture practically unchecked.

Manufactures are unimportant, the products consisting only of coarse cotton fabrics, black woollen blankets, and a little enamel work of gold on glass, the latter being confined to a few families at the capital.

Trade and communications.

The principal exports are grain and opium, and the imports are cotton cloth and salt. The trade is mostly with Bombay. During the eight years ending 1900 the average number of chests of opium exported was 629, worth about 3 lakhs, and the export duty levied by the Darbār averaged Rs. 7,700. In 1901 this duty was raised from *Sālim shāhi* Rs. 27 to British Rs. 27 per chest of $1\frac{3}{4}$ maunds, and the $532\frac{1}{2}$ chests exported in 1903-4 paid a duty of more than Rs. 14,000. Salt is obtained from Sāmbhar, about seven to eight thousand maunds being imported annually.

There is no railway in the State, the nearest station being Mandasor on the Rājputāna-Mālwā line, 20 miles from Partābgarh town by a metalled road which was constructed in 1894, and of which 13 miles lie in Partābgarh territory. With this exception and a few streets at the capital, the communications are mere country tracks. Two British post offices and one telegraph office are maintained, and the State has no local postal system.

Partābgarh is less liable to famine than most of the States of

Rājputāna, but in 1899–1900 the rainfall was less than one-third of the average and both harvests failed. The system of relief was adequate and efficient, and the extent of the operations was limited only by the financial resources of the State. Practically no land revenue was collected; more than 727,000 units were relieved on works and nearly 100,000 gratuitously in villages and poorhouses. Including advances to agriculturists and remissions and suspensions of land revenue, the famine cost the State about 1·7 lakhs, and one-third of the cattle perished.

Famine.

The State is governed by the Mahārāwat with the help of a Kāmdār or minister and, in judicial matters, of a committee of eleven members styled the Rāj Sabhā. Each of the three districts is under a *hākim*.

Administration.

In the administration of justice the courts are guided generally by the Codes of British India. The lowest courts are those of the *hākims*, two of whom (at Partābgarh and Sāgthali) are second-class magistrates, and can decide civil suits the value of which does not exceed Rs. 500, while the third (in Magrā) is a third-class magistrate and can decide civil suits up to a value of Rs. 250. The Sadr Criminal and Civil Court, besides hearing appeals against the decisions of *hākims*, takes up cases beyond their powers, the presiding officer being a first-class magistrate with jurisdiction in civil suits up to a value of Rs. 1,000. The highest court of the State is the Rāj Sabhā; it can punish with a fine of Rs. 2,000, five years' imprisonment, and two dozen stripes, and decide civil suits not exceeding Rs. 3,000 in value, while it hears appeals against the decisions of the Sadr Court. When presided over by the chief, its powers are absolute. The principal nobles have limited jurisdiction in their own estates over their own people; in criminal cases they can award six months' imprisonment and Rs. 300 fine, while on the civil side they decide suits the value of which does not exceed Rs. 1,000. Cases beyond their powers go before the Rāj Sabhā.

The normal revenue of the State, excluding income from lands alienated to Rājputs, Brāhmans, temples, &c., is about 1·7 lakhs, of which one lakh is derived from the land, Rs. 40,000 from customs, and Rs. 20,000 as tribute from *jāgīrdārs*. The normal expenditure is about 1·4 lakhs, the main items being privy purse (Rs. 40,000), tribute (Rs. 36,360), cost of administration (Rs. 33,500), and army and police (Rs. 24,000). The State is in debt to Government to the extent of about 6½ lakhs, and the finances have consequently since 1901 been under the control of the Resident in Mewār.

According to the local account a mint was established at the capital early in the eighteenth century, but the story is improbable. The coins struck there have for a long time been commonly called *Sālim*

shāhi, the name being derived from that of Sālim Singh, the ruler of Partābgarh from 1758 to 1775, or possibly a contraction of Shāh Alam II, who is said to have confirmed the right of coining. The local rupee was formerly worth from 12 to 13 British annas, but in January, 1903, it exchanged for about 7 annas only. It was consequently decided to replace the local currency in 1904 by British coin; but as the actual market rate of exchange during the period of conversion was more favourable to holders of the Partābgarh rupee than the rate fixed on the average of the previous six months, no coins were tendered for conversion. The *Sālim shāhi* currency is, however, no longer legal tender in the State, and the Partābgarh mint has been closed in perpetuity.

There are three kinds of land tenures in the State: namely, *khālsa*, *chākrāna*, and *dharmāda*. *Khālsa* land is the property of the State and is leased generally on the *ryotwāri* system, there being few intermediate *zamīndārs*. The lessees can neither sell nor mortgage, but, on the other hand, they are never, without sufficient reason, deprived of their holdings, which usually descend from father to son. *Chākrāna* lands are those granted to Rājputs and officials for work performed, and are held on the usual tenure of service and tribute. Lands granted to Brāhmans, temples, Chārans, and Bhāts are called *dharmāda*; they are held rent free, but neither they nor *chākrāna* lands can be mortgaged or sold.

A rough settlement was made in 1875, when leases were granted for ten years, but the people were opposed to a settlement of any kind, and it has since been customary to grant annual leases. Regular settlement operations are, however, in progress, which were to be finished by the end of 1906. The current assessment per acre varies from 8 annas to Rs. 1–8 for 'dry' land and from Rs. 2–8 to Rs. 17–8 for 'wet' land, and the revenue is collected mostly in cash.

The military force consists of 13 gunners, 22 cavalry, and 76 infantry, with 19 unserviceable guns; while the police force numbers 170 of all ranks, including 6 mounted men. The jail has accommodation for 23 males and 17 females, the average daily number of prisoners in 1904 being 33. A new jail is under construction.

Education is at a low ebb, only 4 per cent. of the population (8·3 males and about 0·1 females) being able to read and write. In 1901 there was but one regular school, attended by 194 pupils, or less than 3 per cent. of the population of school-going age, while the total expenditure on education was Rs. 600. The daily average attendance at this school fell in 1903 to 98. Recently two more schools have been started: namely, a nobles' school at the capital for the sons of Thākurs and of people of means, and a small vernacular school at Deolia. The daily average attendance at these

institutions in 1904 was, respectively, 30 and 14, and the total expenditure on education was Rs. 2,650.

The State possesses one hospital, with accommodation for 4 in-patients, and one dispensary. In 1904 the number of cases treated was 9,311, of whom 16 were in-patients, and 643 operations were performed. The cost of these institutions, about Rs. 1,900, was borne entirely by the State.

Vaccination is very backward. Only one vaccinator is employed, and in 1904-5 the number of persons successfully vaccinated was 244, or about 4 per 1,000 of the population.

[*Rājputāna Gazetteer*, vol. iii (1880, under revision).]

Partābgarh Town (*Pratāpgarh*) (1).—Capital of the State and the head-quarters of the district of the same name in Rājputāna, situated in 24° 2′ N. and 74° 47′ E., twenty miles by metalled road west of Mandasor station on the Rājputāna-Mālwā Railway. The population in 1901 numbered 9,819, of whom 52 per cent. were Hindus, 27 per cent. Jains, and 20 per cent. Musalmāns. The town, which was founded by, and named after, Mahārāwat Pratāp Singh in 1698, lies 1,660 feet above sea-level, in a hollow formerly known as Doderia-kā-khera. It is defended by a loopholed wall with eight gates built by Mahārāwat Sālim Singh about 1758, and on the south-west is a small fort in which the chief's family occasionally reside. The palace, which is in the centre of the town, contains the State offices and courts; and outside the town are two bungalows, one used by the chief and the other as a guest-house. Partābgarh used to be somewhat famous for its enamelled work of gold inlaid on emerald-coloured glass and engraved to represent hunting and mythological scenes. The art of making this jewellery is said to be confined to five families, and the secret is zealously guarded. In the town are eleven Jain and nine Hindu temples, a combined post and telegraph office, a small jail which has accommodation for 40 prisoners and is generally overcrowded, an Anglo-vernacular middle school for boys (daily average attendance 98 in 1904), a school for the sons of the wealthier classes (daily average attendance 30 in 1904), and a hospital called the Raghunāth Hospital after the present chief, which was built in 1893 and has accommodation for 4 in-patients.

Partābgarh District (*Pratāpgarh*).—Southern District of the Fyzābād Division, United Provinces, lying between 25° 34′ and 26° 21′ N. and 81° 19′ and 82° 27′ E., with an area of 1,442 square miles. It is bounded on the north by Rāe Barelī and Sultānpur; on the east and south-east by Jaunpur; on the south by Allahābād; and on the west by Allahābād and Rāe Barelī. Portions of the District are enclosed in Jaunpur and Allahābād, and some villages of Allahābād form enclaves within Partābgarh. The general aspect is that of a richly

wooded and fertile plain, here and there relieved by gentle undulations, and broken into ravines in the vicinity of the rivers and streams. The southern portion is perhaps more densely wooded than other parts. Barren tracts of uncultivable land impregnated with saline efflorescence (*reh*) are met with in places, but do not extend over any considerable area. For the most part, Partābgarh is under rich and varied crops, dotted with many villages and hamlets, which are surrounded by fine groves of mango, *mahuā*, or other trees.

Physical aspects.

The Ganges forms part of the southern boundary, and the Gumtī touches the north-east corner of the District. The chief river is, however, the Sai, which enters Partābgarh from Rāe Barelī, and after an exceedingly tortuous south-easterly course falls into the Gumtī in Jaunpur. This river runs chiefly between high banks, broken by deep ravines, at a considerable depth below the level of the surrounding country. It is navigable during the rains, when it swells into a considerable stream; but in the hot season it runs nearly dry. It receives a number of tributary rivulets, but none of importance. The District contains many tanks and swamps, some of which in the rains measure several miles in circumference.

Partābgarh is entirely composed of alluvium, and *kankar* or nodular limestone is the only rocky formation.

Small patches of jungle land occur in many parts, chiefly covered with *dhāk* (*Butea frondosa*). The *babūl* (*Acacia arabica*) grows in the ravines, and the usual varieties of fig and other trees are scattered about the District. Groves of mango and *mahuā* (*Bassia latifolia*) are exceptionally numerous and large, one of them covering an area of 80 acres.

Wild animals are not numerous, owing to the closeness of cultivation. Wolves are fairly common in the ravines and broken land, and wild hog and a few *nīlgai* are found in the tamarisk jungle along the Ganges. Jackals and foxes occur in all parts. Wild-fowl are unusually scarce, though in the cold season geese and duck visit the large sheets of water. Both rivers and tanks abound in fish.

The climate is dry and healthy. The mean monthly temperature ranges from about 60° in December and January to 92° in May.

Over the whole District the annual rainfall averages 38 inches, evenly distributed. Considerable fluctuations occur from year to year, and the fall has varied from 19 inches in 1877 to 75 in 1894.

Tradition connects most of the ancient sites in the District with the Bhars; but some of them certainly date from the Buddhist period. Legend ascribes the foundation of Mānikpur on the Ganges to one Mānadeva, son of a mythical Baldeva of Kanauj, and its change of name to Mānik Chand, brother of the

History.

great Jai Chand. The Bhars were displaced by the Somavansis from Jhūsī, and other Rājput clans spread over the District. In the eleventh century the warrior saint of Islām, Saiyid Sālār, defeated the Hindu princes of Mānikpur and Karā, but Muhammadan rule was not established till the defeat of Jai Chand by Muhammad Ghorī. Mānikpur and Karā on the opposite bank of the Ganges were important seats of government in the early Muhammadan period. Alā-ud-dīn Khiljī was governor here, before he gained the throne of Delhi by murdering his uncle on the sands of the river between these two places. In the fifteenth century the District came under the rule of the Sharkī kings of Jaunpur, and after its restoration to Delhi the Rājput chiefs and the Muhammadan governors were frequently in revolt. The Afghāns long retained their hold on the District, and early in the reign of Akbar the governor of Mānikpur rebelled. Mānikpur lost its importance when Allahābād became the capital of a Province, and from that time it was merely the chief town of a *sarkār*. The Rājputs again rose during the anarchy which marked the disruption of the empire after the death of Aurangzeb. They were, however, gradually reduced by the Nawābs of Oudh, and in 1759 Mānikpur was removed from the *Sūbah* of Allahābād and added to Oudh. The later history of the District is a record of constant fighting between the officials of Oudh and the Rājput chiefs. At annexation in 1856 the eastern part of the District was included in Sultānpur, while the west formed part of Salon (*see* Rāe Barelī District). A new District was in process of formation when the Mutiny broke out. Rājā Hanwant Singh of Kālākānkar escorted the fugitives from Salon to Allahābād, and then turned rebel. With few exceptions all the large landholders joined the mutineers, and the District relapsed into a state of anarchy. Troops advanced in July, 1858, but the campaign was checked by the rains, and it was not till November that British rule was re-established. On November 1, 1858, the proclamation of the Queen, assuming the government of the country, was read to the army by Lord Clyde at Partābgarh town. The area of the District then formed was altered in 1869 by the transfer of territory to Rāe Barelī.

Only one or two of the ancient sites which are found in many parts have been excavated[1]. The chief memorials of Muhammadan rule are at Mānikpur, where the vast mound of the ancient fort still rises high above the Ganges, and a number of ruined mosques and palaces dating from the reigns of Akbar, Jahāngir, and Shāh Jahān attest the former importance of what is now a mere village.

Partābgarh contains 4 towns and 2,167 villages. The population has increased considerably during the last thirty years. The numbers

[1] Cunningham, *Archaeological Survey Reports*, vol. xi, pp. 63 and 70.

at the four enumerations were as follows: (1869) 782,681, (1881) 847,047, (1891) 910,895, and (1901) 912,848. There are three *tahsīls*—PARTĀBGARH, KUNDĀ, and PATTĪ—the head-quarters of each being at a place of the same name, except in the case of Partābgarh, the *tahsīldār* of which is stationed at BELĀ. This is the only town of importance, and is also a municipality and the head-quarters of the District. The following table gives the chief statistics of population in 1901:—

Population.

Tahsīl.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Partābgarh	432	3	679	316,580	733	+ 3.3	10,942
Kundā	543	1	686	323,508	596	− 2.8	9,701
Pattī	467	...	802	272,760	584	+ 0.5	7,308
District total	1,442	4	2,167	912,848	633	+ 0.2	27,951

Hindus form nearly 90 per cent. of the total, and Musalmāns 10 per cent. The whole District is thickly populated, and supplies considerable numbers of emigrants to other parts of India and to the Colonies. The Awadhī dialect of Eastern Hindī is spoken by almost the whole population.

The most numerous Hindu castes are Kurmīs (agriculturists), 112,000; Brāhmans, 111,000; Ahīrs (graziers and cultivators), 102,000; Chamārs (tanners and labourers), 98,000; Rājputs, 70,000; Pāsīs (toddy-drawers and labourers), 51,000; and Baniās, 33,000. Musalmāns include Shaikhs, 27,000; Pathāns, 12,000; and Julāhās (weavers), 7,000. Agriculture supports 77 per cent. of the total population, a high proportion. The District supplies a considerable number of recruits for the Indian army. Rājputs hold nine-tenths of the land, Sombansīs, Bachgotīs, Kānhpuriās, Bilkhariās, and Bisens being the chief clans. Brāhmans, Kurmīs, Rājputs, and Ahīrs occupy the largest areas as cultivators.

Only 43 native Christians were enumerated in 1901, of whom 36 belonged to the Anglican communion. A branch of the Zanāna Bible and Medical Mission was founded here in 1890, and a branch of a Canadian mission in 1903.

Agriculture.

In the south-west near the Ganges lies a strip of low alluvial land, which is generally sandy and unproductive. Beyond the high bank is a tract of rich loam, which gradually stiffens to clay. The valley of the Sai is mainly composed of a light fertile loam, deteriorating to sand near the river and its tributary streams. North of the Sai lies another clay tract. Both

of these areas of stiff soil are studded with lakes and swamps, and are liable to waterlogging in wet seasons owing to defective drainage, but in ordinary years they produce excellent rice. The cultivation of sugar-cane is chiefly confined to the Pattī *tahsīl.*

The usual tenures of OUDH are found. About two-thirds of the total area is included in *talukdāri* estates, while nearly 10 per cent. is held by sub-settlement holders and under-proprietors. The main agricultural statistics for 1903–4 are given below, in square miles:—

Tahsīl.	Total area.	Cultivated.	Irrigated.	Cultivable waste.
Partābgarh .	432	265	127	38
Kundā . .	543	289	151	50
Pattī . .	467	256	136	41
Total	1,442	810	414	129

Rice covered 207 square miles, or 26 per cent. of the total, barley 192 square miles, gram 138, wheat 111, *arhar* 88, peas and *masūr* 62, *jowār* 54, and *bājra* 52. The chief non-food crops are poppy (19), *san*-hemp (16), and sugar-cane (19). A little indigo is also grown, and there are many small *pān* gardens.

A marked increase occurred in the area under cultivation between the first and second regular settlements, chiefly due to the reclamation of waste. A large area near the Ganges, once occupied by a swamp, was reclaimed by a European, who constructed a large dam and erected pumps. The drainage of the Pattī *tahsīl* has recently been improved. The area bearing two crops in a year has also risen, and the principal changes in the methods of cultivation have been directed towards increasing this area. The larger areas under rice, sugar-cane, and poppy are also noticeable. Advances are taken with some regularity under the Land Improvement and Agriculturists' Loans Acts. During the ten years ending 1900 the total loans amounted to 1·6 lakhs, of which 1·1 lakhs was advanced in 1896–7. In the next four years the advances averaged Rs. 3,500 annually.

The cattle bred locally are small and inferior. The ponies of the District are also poor, but a stallion is now maintained by Government. Sheep and goats are largely kept, and a fine breed of sheep is found in the Kundā *tahsīl.* The Gadariās, or shepherds, who own the latter keep them chiefly for their wool.

Wells are the chief source of irrigation, supplying 257 square miles in 1903–4. Tanks or swamps served 153 square miles, but the area supplied from them is liable to considerable fluctuations. Thus in the dry year 1897 more than 84 per cent. of the irrigated area was supplied from wells. Other sources are negligible. The number of wells is

increasing rapidly, and masonry wells have replaced unprotected ones to a considerable extent. Water is almost invariably raised from wells in leathern buckets drawn by bullocks, and from tanks and *jhīls* by the swing-basket. Some of the tanks used for irrigation are artificial but these are of small size.

Kankar or nodular limestone is the chief mineral product, and is used for metalling roads and for making lime. A little saltpetre is extracted from saline efflorescences, and glass is also manufactured.

Trade and communications.

There are very few industries besides agriculture. Indigo is still made on a small scale, and sugar-refining is of considerable importance in the east of the District. An interesting experiment in the rearing of silkworms and manufacture of silk is being conducted by the *talukdār* of Kālākānkar. Coarse cotton cloth and woollen blankets are made at a few places.

The District exports grain, oilseeds, opium, *san*-hemp, and hides, and imports piece-goods, metals, hardware, and sugar, the local production of common sugar being insufficient. Belā is the chief mart, and small markets have sprung up at several places along the railway.

The main line of the Oudh and Rohilkhand Railway passes from south-east to north-west across the District, and at Belā meets the Allahābād-Fyzābād branch running from north to south. There are 615 miles of road, of which 64 are metalled. The latter are in charge of the Public Works department; but the cost of all but 24 miles is charged to Local funds. The chief routes are from Partābgarh town to Allahābād and Fyzābād, and towards Rāe Barelī and Akbarpur. Avenues of trees are maintained on 97 miles.

Famine.

The District is so well protected by means of irrigation that it has suffered little from famine. Deficiency of rain caused some damage to the crops in 1864, 1868, and 1873. In 1878 the effects of drought in the previous year were more marked, and relief works were opened, but never attracted more than 4,600 persons on one day. The early cessation of the rains in 1896 was felt, because it followed a series of years in which excessive rain had done much damage. Relief works were opened in December, but were not largely resorted to, and distress was less severe than in the adjoining Districts.

Administration.

The Deputy-Commissioner is usually assisted by four Deputy-Collectors recruited in India, and a *tahsīldār* is stationed at the head-quarters of each *tahsīl*. The cultivation of poppy is supervised by an officer of the Opium department.

Two Munsifs and a Subordinate Judge have civil jurisdiction in the District, which is included in the Civil and Sessions Judgeship of Rāe

Barelī. Crime is light and not of a serious type, the more heinous forms being rare. Thefts and burglaries are the chief offences. Female infanticide was once very prevalent, but has not been suspected for many years.

A summary settlement was made in 1856, and on the restoration of order in 1858 a second summary settlement was carried out, by which the revenue was fixed at 7·3 lakhs. A survey was then made, and a regular settlement followed between 1860 and 1871. The assessment was largely based on the actual rent-rolls, and average rates were derived from these to value land cultivated by proprietors or held on grain rents. It resulted in an enhancement of the revenue to 9·9 lakhs. A large number of claims to rights in land were decided by the settlement courts. The second regular settlement was made between 1892 and 1896 by the Deputy-Commissioner in addition to his regular duties. It was based, as usual, on the actual rent-rolls, and allowance was made in valuing land which did not pay cash rents for the difference in rents paid by high-caste and low-caste cultivators. The new revenue amounts to 13·4 lakhs, and the incidence is Rs. 1·6 per acre, with very slight variations in different *parganas*.

Collections on account of land revenue and revenue from all sources have been, in thousands of rupees :—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	9,53	9,96	13,26	13,03
Total revenue . .	11,75	12,98	18,20	18,13

There is one municipality, BELĀ, and three towns are administered under Act XX of 1856. Beyond the limits of these, local affairs are managed by the District board, which in 1903-4 had an income of Rs. 90,000, chiefly derived from local rates, and an expenditure of Rs. 97,000, including Rs. 49,000 spent on roads and buildings.

The District Superintendent of police has under him a force of 2 inspectors, 65 subordinate officers, and 237 constables distributed in 12 police stations, besides 32 municipal and town police, and 1,719 rural and road police. The District jail contained a daily average of 125 prisoners in 1903.

In regard to education, Partābgarh does not hold a high place. In 1901, 3·1 per cent. of the population (6·1 males and 0·1 females) could read and write. The number of public schools increased from 88 with 3,121 pupils in 1880-1 to 126 with 7,037 pupils in 1900-1. In 1903-4 there were 161 such schools with 7,493 pupils, of whom 65 were girls, besides 48 private schools with 1,036 pupils, including 2 girls. Only 916 pupils had advanced beyond the primary stage. Two schools are managed by Government and 100 by the District

board. The total expenditure on education was Rs. 40,000, of which Rs. 24,000 was provided from Local funds, and Rs. 6,000 by fees.

There are ten hospitals and dispensaries, with accommodation for 95 in-patients. In 1903 the number of cases treated was 49,000, including 674 in-patients, and 1,489 operations were performed. The expenditure amounted to Rs. 11,000, chiefly met from Local funds.

About 24,000 persons were successfully vaccinated in 1903–4, representing the low proportion of 26 per 1,000 of population. Vaccination is compulsory only in the municipality of Belā.

[H. R. Nevill, *District Gazetteer*, 1904.]

Partābgarh Tahsīl (*Pratāpgarh*).—Central *tahsīl* of Partābgarh District, United Provinces, comprising the *parganas* of Atehā and Partābgarh, and lying between 25° 43′ and 26° 11′ N. and 81° 31′ and 82° 4′ E., with an area of 432 square miles. Population increased from 306,427 in 1891 to 316,580 in 1901, this being the only part of the District which showed an appreciable rise. There are 679 villages and three towns, BELĀ (population, 8,041), the District and *tahsīl* head-quarters, and PARTĀBGARH (5,148) being the largest. The demand for land revenue in 1903–4 was Rs. 4,17,000, and for cesses Rs. 67,000. The density of population, 733 persons per square mile, is the highest in the District. Through the centre of the *tahsīl* flows the Sai in a very winding channel. The banks of the river are sandy, but good loam is found at a short distance. In the south the soil is clay and swamps abound. In 1903–4 the area under cultivation was 265 square miles, of which 127 were irrigated, wells being the chief source of supply.

Partābgarh Town (*Pratāpgarh*) (2).—Town in the District and *tahsīl* of the same name, United Provinces, situated in 25° 54′ N. and 81° 57′ E., 5 miles south of BELĀ. Population (1901), 5,148. It is said to have been founded about 1617 by Rājā Partāb Singh. The fort was of some importance in the eighteenth century and sustained several sieges. In the nineteenth century it was taken by the Oudh government. The Rājā of Partābgarh resides in a fine building, portions of which are of considerable antiquity. He maintains a large school with 164 pupils, and a dispensary. Partābgarh is administered under Act XX of 1856, with an income of about Rs. 600. There is a flourishing local trade.

Parūr (*Paravūr*).—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 10° 10′ N. and 76° 15′ E., about 17 miles north of Ernākulam, the southern terminus of the Cochin-Shoranūr Railway. Population (1901), 12,962, including almost all the Jews of Travancore. A Rājā of Parūr once ruled here. At one time the place belonged to Cochin, but it was made over to Travancore

in 1762. It was then converted into a military station for the frontier troops. Tipū, in his second invasion of Travancore, destroyed a great portion of it. It is now a busy trading centre, and contains the courts of a District and Sessions Judge, a Munsif and a magistrate, and other public offices.

Pārvatīpur.—Village in the head-quarters subdivision of Dinājpur District, Eastern Bengal and Assam, situated in 25° 40′ N. and 88° 56′ E. Population (1901), 1,787. It is an important railway junction, where the Assam and Bihār sections of the Eastern Bengal State Railway branch off east and west from the main line.

Pārvatīpuram Subdivision.—Subdivision of Vizagapatam District, Madras, consisting of the *zamīndāri tahsīls* of PĀRVATĪPURAM (including Agency area), BISSAMCUTTACK, RĀYAGADA, GUNUPUR, BOBBILI, and SĀLŪR (including Agency area).

Pārvatīpuram Tahsīl.—*Zamīndāri tahsīl* in Vizagapatam District, Madras, lying between 18° 38′ and 19° 8′ N. and 83° 17′ and 83° 50′ E., in the north of the extensive plain drained by the Nāgāvali or Lāngulya river, with an area of 799 square miles. The population in 1901 was 160,523, compared with 157,014 in 1891. The head-quarters are at PĀRVATĪPURAM TOWN (population, 17,308); the number of villages is 498. The northern part of the *tahsīl* is hilly and lies within the Agency limits; the rest is flat and presents no features of interest. The *tahsīl* is all *zamīndāri* land, belonging partly to the Belgām and Pārvatīpuram estates and partly to the *zamīndārs* of Kurupām, Sangamvalsa, and Merangi. The demand for land revenue and cesses in 1903–4 was Rs. 77,500.

Pārvatīpuram Town.—Head-quarters of the subdivision and *tahsīl* of the same name in Vizagapatam District, Madras, lying in 18° 47′ N. and 83° 26′ E. Population (1901), 17,308. An Assistant Superintendent of police and a police reserve are stationed here. Lying at the junction of roads from Bengal, Jeypore, Pālkonda, and Vizianagram, Pārvatīpuram is a rapidly growing centre of trade between the hills and the low country.

Pasni.—An open roadstead and port in Makrān, Baluchistān, situated in 25° 16′ N. and 63° 28′ E., about 220 miles from Karāchi, on a sandbank connecting the headland of Zarren with the mainland. The inhabitants live in mat huts; the telegraph bungalow and three other structures constitute the only permanent buildings. The population (1904) numbers 1,489, and consists of Meds (1,065) with a few Hindus, Khojas or Lotiās, and Kalmatis. Pasni obtains its importance from its proximity to Turbat, the head-quarters of Makrān, about 70 miles distant. Mail steamers make fortnightly calls at the port, but the open roadstead affords poor anchorage. Improved facilities for landing are now in contemplation. The trade of Pasni is rapidly

expanding, and amounted in value to about 4¾ lakhs during the twenty-one months from June, 1903, to February, 1905. The annual customs lease has also risen from Rs. 4,500 in 1899 to Rs. 18,000 in 1905. The only industry is fishing, on which the majority of the population subsist.

Pasrūr Tahsīl.—Central *tahsīl* of Siālkot District, Punjab, lying between 31° 56′ and 32° 20′ N. and 74° 32′ and 74° 57′ E., with an area of 394 square miles. The population in 1901 was 193,746, compared with 203,875 in 1891. The head-quarters are at the town of PASRŪR (population, 8,335), and it also contains the town of KILA SOBHA SINGH (3,338) and 443 villages. The land revenue and cesses in 1903–4 amounted to Rs. 3,10,000. Irrigation dams are an important factor in cultivation, especially in the south and west of the *tahsīl*. The richest tract is the north-east corner. In the centre the country lies higher and is less fertile, while in the south the soil is a sour clay. The Degh passes through the eastern portion.

Pasrūr Town.—Head-quarters of the *tahsīl* of the same name in Siālkot District, Punjab, situated in 32° 16′ N. and 74° 40′ E., on the road from Siālkot to Amritsar, 18 miles south of Siālkot town. Population (1901), 8,335. It was originally called Parasrūr after Paras Rām, Brāhman, to whom the town was assigned by its founder; it is mentioned by Bābar as a halting-place between Siālkot and Kalānaur, and seems to have once been of considerable importance. It possesses a large tank, constructed in the reign of Jahāngīr. To feed this, Dārā Shikoh dug a canal, traces of which are still extant. Near by are the remains of a bridge built by Shāh Daula. At the Muharram a great gathering takes place at the shrine of Miān Barkhurdār, a famous Muhammadan saint. The trade of Pasrūr has much decayed, partly through the opening of the North-Western Railway, and partly on account of the octroi duties which have diverted trade to the neighbouring village of Kalāswāla. Hand-printed cotton stuffs are the only manufacture of importance. Pasrūr is a station of the American United Presbyterian Mission. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 7,900, and the expenditure Rs. 7,800. The income in 1903–4 was Rs. 8,000, chiefly from octroi; and the expenditure was Rs. 6,900. The town contains an Anglo-vernacular high school maintained by the District board, and a Government dispensary.

Pātan Tāluka (1).—North-western *tāluka* of the Kadi *prānt*, Baroda State, with an area of 409 square miles. The population fell from 136,083 in 1891 to 104,136 in 1901. The *tāluka* contains two towns, PĀTAN (population, 31,402), the head-quarters, and BALISNA (4,650); and 140 villages. It presents the appearançe of a fairly wooded plain, with the river Saraswatī running through the centre. To the west and

north the soil is black, while to the east it is light and sandy. In 1904-5 the land revenue was Rs. 3,26,000.

Pātan Town (1).—Head-quarters of the *tāluka* of the same name, Kadi *prānt*, Baroda State, situated in 23° 51′ N. and 72° 10′ E., on the Gaikwār's State line from Mehsāna on the Rājputāna-Mālwā Railway. Population (1901), 31,402. In former times it was known as ANHILVĀDA or Anhilpur, and was founded about A.D. 746, or, according to some accounts, in 765, by Vanarājā, the forest-born son of the beautiful Rānī, Rūp Sundri. He was the first of a line of kings, named Chāvada, a dynasty which was succeeded by the Solankis, and afterwards by the Vāghelas. The town, afterwards known as Nahrwāra or Nahrwāla, was celebrated for its size and magnificence, and yielded much plunder to Mahmūd of Ghazni. The last of the Vāghelas, Karan Ghelo ('the insane'), was overpowered in 1298 by Ulugh Khān; and the Muhammadans afterwards levelled the walls of the town, buried the temples in their foundations, and ploughed up the ground on which they stood. The modern Pātan has sprung up on the ruins left by the ancient conquerors, but does not possess the magnificent palaces, parks, tanks, schools, libraries, markets, and offices which are said to have adorned the old town. Some remains, however, are still to be seen which indicate the former greatness of Anhilvāda. One of these is the Rānī Vāv, or large well built by Udayamati, the queen of Rājā Bhīma, in the eleventh century, of which a few battered fragments remain. The water is said to possess the power of curing infantile cough. The Sahasra Ling Talāv, or 'tank with the thousand shrines,' was dedicated to Siva by the famous Jay Singh Siddha Rājā of the Solanki line (1093–1143), when he set out on his expedition against Yasovarma, king of Mālwā. But of this nothing now remains, save a large field with the ruins of a Muhammadan building in the centre, constructed on the site of a temple. Bairam, the minister of Humāyūn and Akbar, was assassinated on the bank of this lake in 1561, while on his way to Mecca. A marble statue of Vanarājā, the founder of the place, in one of the Jain temples, bears an inscription dated 1467. Another tank worthy of notice is the large reservoir to the south of the town, known as the Khān Sarovar, which, however, is of Muhammadan origin. The modern town of Pātan, together with the citadel, is the result of Marāthā efforts. It is situated to the south-east of old Anhilvāda, nearly a mile from the Saraswatī river. A lofty wall, most of which is of great thickness, entirely surrounds it, and there are numerous gateways. The public buildings, of which the chief are the offices in the citadel, the high school, and the civil hospital, are of no great interest; and the general aspect of the streets and houses, with the exception of a few which display profuse and elaborate wood-carving, is depressing. The Jain temples in the town are said to

number 108 or 110, but none is of much architectural or archaeological importance. In these thousands of palm-leaf manuscripts are carefully preserved, of which a list has recently been made. The manufactures carried on at the present day are not of great importance, though there is a fair out-turn of swords, betel-nut slicers, *patolas* (variegated *sāris*), embroidery, and pottery. The last is said to be superior to any of its kind in Gujarāt, and is remarkable for its glaze. It is, however, of a very fragile nature. Wood-carving and ivory-turning are also practised. The town is the most important centre for trade in the Kadi *prānt*, and its commercial facilities have been greatly increased since the opening of the line from Mehsāna to Pātan. The municipality, which was reconstituted on a partly elective basis in 1905, has an income of Rs. 10,000 from excise, customs, and tolls, besides an annual grant of Rs. 5,000 from the State.

[J. Burgess and H. Cousens, *Architectural Antiquities of Gujarāt* (1903).]

Pātan Tāluka (2).—South-easternmost *tāluka* of Sātāra District, Bombay, lying between 17° 8′ and 17° 34′ N. and 73° 39′ and 74° 4′ E., with an area of 438 square miles. It contains 203 villages, but no town. Pātan is the head-quarters. The population in 1901 was 104,167, compared with 131,833 in 1891. The density, 238 persons per square mile, is the same as the average of the District. The demand for land revenue in 1903–4 was 1·2 lakhs, and for cesses Rs. 11,000. Pātan is hilly. The chief feature in the west is the Koyna valley running south, with lofty flanking hills. On the east the valleys of the Koyna, Tārli, and Kole open into the plains of the Kistna. The soil of the eastern valleys is good, yielding both early and late crops, chiefly *jowār* and ground-nuts, and, when watered, sugar-cane. The rest of the soil is red, and except in the hollows where rice and sometimes sugar-cane are grown, is under nomadic cultivation. The Koyna and the Tārli with their feeders furnish abundance of water to the villages on and near their banks. Away from the rivers, both on the tops of the hills and in the valleys, especially during March, April, and May, water is scarce. The climate is cool and healthy in the hot season, but the chilly damp of the rains makes it feverish. Compared with the greater portion of the District the rainfall is heavy, averaging 67 inches annually.

Pātan Town (or Lālita Pātan) (2).—One of the chief towns of Nepāl, situated, approximately, in lat. 27° 41′ N. and long. 85° 20′ E., on rising ground, a short distance from the southern bank of the Bāghmati, about 2 miles south-east of Kātmāndu. Pātan is thus described by Dr. Wright, formerly Surgeon to the British Residency in Nepāl:—

'It is an older town than Kātmāndu, having been built in the reign of Rājā Bīr Deva in the Kāligat year 3400 (A. D. 299). It is also

known by the names of Yellondesi and Lālita Pātan. The latter name is derived from Lālit, the founder of the city. Its general aspect is much the same as that of the capital [Kātmāndu]. The streets are as narrow and dirty, the gutters as offensive, and the temples even more numerous; but it appears much more dilapidated than Kātmāndu, many of the houses and temples being in ruins. The main square, however, in the centre of the town, is very handsome. On one side is the old Darbār with a fine brazen gateway, guardian lions, and endless carvings. In front of this are monoliths, with the usual figures on them, and behind these a row of handsome old temples of every description. The parade-ground lies to the south-east of the town, the road to it passing through a suburb abounding in pigs. The parade-ground is extensive, and there are several large tanks to the west, while on the southern side stands a huge Buddhist temple of the most primitive description. This temple is merely a mound or dome of brickwork, covered with earth. There is a small shrine at each of the cardinal points, and on the top what looks like a wooden ladder. Many similar mound-temples or *chaityas* exist in and around Pātan. The population of the town is said to be about 30,000, mainly Newārs.'

From the early part of the seventeenth century Pātan was one of the three petty Newār States in the Valley of Nepāl, and its quarrels with its neighbours at Kātmāndu and Bhātgaon paved the way for its conquest by the Gurkhas in 1768–9. The town is now garrisoned by the Gurkha government.

Pātan.—District and head-quarters thereof in the Būndi State, Rājputāna. *See* KESHORAI PĀTAN.

Patancherū.—Village in the Kalabgūr *tāluk* of Medak District, Hyderābād State, situated in 17° 32′ N. and 78° 16′ E. Population (1901), 1,886. It was formerly the head-quarters of the Sūbahdār (Commissioner) of the Bīdar Division, and is still the head-quarters of the Commissioner of the Medak Gulshanābād Division. Groups of underground Hindu temples are said to exist in the vicinity of the village, buried under the sand. Some old copper coins were recently discovered here. A pillar bearing the zodiacal signs, sculptured in a circle around a lotus or conventional representation of the sun, is an interesting relic. The place contains many buildings and tombs of Musalmān origin.

Pataudi State.—Native State in the Punjab, under the political control of the Commissioner of the Delhi Division, lying between 28° 14′ and 28° 22′ N. and 76° 42′ and 76° 52′ E., in the midst of the British District of Gurgaon. Its area is 52 square miles; population (1901), 21,933; and it contains one town, PATAUDI (population, 4,171), the capital, and 40 villages. It consists of a level plain, badly watered, except in a few villages to which floods give occasional irrigation. The ruling chief of Pataudi is descended from a saintly Afghān family,

which settled originally near Samāna in Patiāla. A descendant, Talab Faiz Khān, who was closely connected with the Jhajjar family by marriage, was in the Marāthā service and received the fief of Rohtak. On the defeat of the Marāthās in 1803 he was employed under Lord Lake, who in 1806 granted him the Pataudi territory in perpetuity. In 1826 he took part in the siege of Bharatpur. His son, Akbar Alī, behaved loyally during the Mutiny of 1857. The present Nawāb was born in 1863 and succeeded in 1898. The administration is carried on by a *nāzim*, who exercises judicial functions and superintends the revenue administration, which is in the hands of a *tahsīldār* with a staff of eleven subordinates. The State maintains a small force of horsemen as the Nawāb's personal escort, and 33 infantrymen who are employed on guard duties. It also supports a dispensary and a primary school at Pataudi, and 4 village schools. The total land revenue, as settled in 1891, amounts to Rs. 76,631. The excise administration is leased to the British Government for Rs. 650 per annum.

Pataudi Town.—Capital of the Pataudi State, Punjab, situated in 28° 20′ N. and 76° 48′ E., 19 miles south-west of Gurgaon, and 2½ miles from Jatauli station on the Rājputāna-Mālwā Railway. Population (1901), 4,171. It was founded in the time of Jalāl-uddīn Khiljī, by Pata, a Mewātī, from whom it derives its name. The town contains the residence of the Nawāb of Pataudi and the public offices of the State.

Pātdi.—State in the Kāthiāwār Political Agency, Bombay, lying between 23° 7′ and 23° 8′ N. and 71° 48′ and 71° 58′ E., with an area of 40 square miles. The population in 1901 was 2,190, residing in seven villages. The revenue in 1903-4 was Rs. 22,000, and the cultivated area 94 square miles. The State ranks as a fourth-class State in Kāthiāwār.

Pātdi.—Town in Ahmadābād District, Bombay. *See* PĀTRI.

Pathānkot Tahsīl.—*Tahsīl* of Gurdāspur District, Punjab, lying between 32° 5′ and 32° 30′ N. and 75° 20′ and 75° 56′ E., with an area of 367 square miles. It consists mainly of a narrow strip of broken country along the left bank of the Rāvi, but includes a small fertile tract to the west of the river, irrigated by hill-streams. It includes the hill station of DALHOUSIE (population, 1,316), together with the cantonments of BALŪN and BAKLOH, and the cart-road leading thereto. It also contains the towns of PATHĀNKOT (population, 6,091), the head-quarters, and SUJĀNPUR (5,687); and 395 villages. The population in 1901 was 141,623, compared with 140,850 in 1891. The land revenue and cesses in 1903-4 amounted to Rs. 2,76,000.

Pathānkot Town.—Head-quarters of the *tahsīl* of the same name in Gurdāspur District, Punjab, situated in 32° 16′ N. and 75° 40′ E.,

and the terminus of the Amritsar-Pathānkot branch of the North-Western Railway. Population (1901), 6,091. A good cart-road leads from Pathānkot to Pālampur (70 miles) and Dharmsāla (52 miles), and another to Dunera (for Dalhousie and Chamba). The situation of Pathānkot has, from very ancient times, made it an emporium of trade between the hills and plains. From coins found here, Cunningham concluded that it was at an early date inhabited by the Udumbarās, who are coupled in the Purānas with the Traigarttās and Kulindās, or people of Kāngra and Kulū, and with the Kapisthalās, who must be the Kambistholi mentioned by Arrian as dwelling on the Rāvi; and that the kingdom of Dahmeri, which in historical times included most of Gurdāspur and Kāngra, bears a name derived from this people. The capital of this State was Nūrpur in Kāngra, but Pathānkot must have been a place of some importance, as from it the Pathānia Rājputs of Nūrpur take their name[1]. It was from ancient times held by a line of Rājput chiefs, of whom the most noted are Rājā Bakht Mal, who fought for Sikandar Sūri at Mānkot; Bās Deo, who rebelled against Akbar; Sūraj Mal, who rebelled against Jahāngīr; and Jagat Singh, who rebelled against Shāh Jahān and accompanied Dārā Shikoh to Kandahār. The State of Pathānkot was taken by Ranjīt Singh in 1815. The municipality was created in 1867. The income during the ten years ending 1902–3 averaged Rs. 11,500, and the expenditure Rs. 11,200. In 1903–4 the income was Rs. 10,500, chiefly from octroi; and the expenditure was Rs. 11,800. Pathānkot is the seat of a considerable blanket and shawl-weaving industry, and, lying at the point where the trade routes from Chamba, Nūrpur, and Kāngra unite, is a place of some commercial importance, with a growing trade. The District board maintains an Anglo-vernacular middle school and a dispensary.

Pāthardi.—Town in the Shevgaon *tāluka* of Ahmadnagar District, Bombay, situated in 19° 10′ N. and 75° 11′ E., about 30 miles east of Ahmadnagar city. Population (1901), 6,299. The town lies picturesquely on the side of a steep hill which rises in the midst of a barren tract, skirted on the north and east by a range of hills running from Dongargaon into the Nizām's Dominions.

Pātharghāta.—Hill in the head-quarters subdivision of Bhāgalpur District, Bengal, lying between 25° 17′ and 25° 22′ N. and 87° 12′ and 87° 16′ E., on the bank of the Ganges. On the northern side of the hill are some rock sculptures, apparently of a date prior to the seventh or eighth century A.D., the most interesting of which is a long row of figures known locally as the *Chaurāsi sunni* ('84 sages'). The

[1] *Archaeological Survey Reports*, vol. xiv, p. 115. The name of Pathānkot has nothing to do with the trans-Indus Pathāns, but is often written Paithān, and according to Cunningham is a corruption of *Pratisthāna*, 'the established city.'

hill also contains five caves, in the most important of which, the Bateswar cave, bronze and silver relics have been discovered.

[M. Martin, *Eastern India*, vol. ii, pp. 64–5; *Archaeological Survey Reports*, vol. xv, pp. 36–7.]

Pathārī State.—A petty mediatized State in Central India, under the Bhopāl Agency, with an area of 22 square miles, and a population (1901) of 2,704. Locally the State is called Baro-Pathārī or Chor-Pathārī, the former from the old ruined city of Baro, the latter from its former unenviable notoriety as the home of marauding gangs.

The chiefs, who are descended from the Bhopāl house, are Pathāns of the Bārakzai family and the Mirzai Khel. Murīd Muhammad Khān, father of the original grantee, held a *jāgīr* in Rāhatgarh (now in the Central Provinces), of which he was deprived by Mahādajī Sindhia. On the mediation of the British authorities, however, his son, Haidar Muhammad Khān, received the Pathārī *jāgīr* in 1794, as a grant from Daulat Rao Sindhia. Land is still held by the Nawābs at Rāhatgarh, in the Saugor District of the Central Provinces. The present chief, Abdul Karīm Khān, succeeded in 1859 as a boy of five, and received powers in 1872. He pursued, however, a course of extravagance, plunging the State so deeply in debt as to necessitate his removal from the management in 1895. He resides at Sehore with his family, and the State continues under British administration. The chief bears the hereditary title of Nawāb. The archaeological remains at Pathārī are of considerable interest, forming in fact a part of those at Baro, which is situated one mile south of this town. The road from Baro to Pathārī is marked by the remains of numerous temples, *satī* stones, and other indications of an extensive settlement.

The soil is fertile and produces good crops. Of the total area of 22 square miles, 5 square miles, or 23 per cent., are cultivated, while 12 square miles are capable of cultivation, the rest being grazing, jungle, and waste land. The chief ordinarily exercises limited powers, all serious matters being dealt with by the Political Agent. The State has a revenue of Rs. 9,000. Its finances are at present burdened with a debt of Rs. 30,000.

The chief town of Pathārī is picturesquely situated on a small sand-stone hill 1,800 feet above the level of the sea, on the edge of a lake enclosed by a fine dam of undressed stone, in 23° 56′ N. and 78° 13′ E. It is 11 miles distant by metalled road from Kulhār station on the Great Indian Peninsula Railway. Population (1901), 1,106. A British post office and a jail are situated in the town.

Pathārī shows many signs of its importance in the early days of Hindu rule, though, as it now stands, it is purely Muhammadan in character. The remains of numerous statues, carved stones from Hindu temples, and old foundations are everywhere visible. The

principal object of interest is the magnificent column which stands to the east of the town. It is cut from a fine white sandstone, apparently hewn in the old quarry close by, and is 47 feet high, 42 feet being in a single piece. It is surmounted by a bell capital, on which there were originally two human figures back to back, but only a part of one remains. Close by is a small temple, which now contains a *lingam*, but was originally dedicated to Vishnu, as is shown by the figure of Garuda over the doorway. On the northern face of the pillar there is an inscription of thirty-eight lines. The record is dated in A.D. 861, and sets out that the temple of Vishnu (no doubt that close by) was built by a king Parabala of the Rāshtrakūta race, who set up this Garuda bannered pillar before it. The record is additionally interesting in connexion with the Monghyr copperplate, which records the birth of the Pāla king Devapāla, who was born of Rām Devī, daughter of king Parabala. A slab in an old *baori* (well with steps), dated in 1676, records its construction by Mahārājā Prithwīrāj Jū Deo, in the time of Aurangzeb. The Hindu town was destroyed by the Muhammadans, possibly by Alamgīr.

[*Journal of the Asiatic Society of Bengal*, vol. xvii, part ii, p. 305; A. Cunningham, *Archaeological Survey Reports*, vol. vii, p. 64; vol. x, p. 69; *Nachrichten der König. Gesell. der Wissen. zu Göttingen* (1901), p. 519; *Indian Antiquary*, vol. xxi, p. 258.]

Pathārī.—*Thakurāt* in the MĀLWĀ AGENCY, Central India.

Pathāria.—*Thakurāt* in the BHOPĀL AGENCY, Central India.

Pāthar Kachhār.—State in the Baghelkhand Agency, Central India. *See* BARAUNDĀ.

Patheingyi.—Township to the east of Mandalay city in Mandalay District, Upper Burma, lying between 21° 51′ and 22° 8′ N. and 96° 3′ and 96° 24′ E., with an area of 213 square miles. Its population was 31,597 in 1891, and 28,546 in 1901, distributed in 152 villages, the head-quarters being at Patheingyi (population, 532), about 6 miles north-east of Mandalay. The western part of the township is irrigated by the Shwetachaung Canal and produces rice; the eastern is high land bearing 'dry crops.' *Mayin* rice is cultivated below the Nanda tank and west of the Shwetachaung Canal, and the centre of the township is now irrigated by the Mandalay Canal. The area cultivated was 65 square miles in 1903–4, but will probably increase largely now that the Mandalay Canal has been completed. The land revenue and *thathameda* amounted to Rs. 2,02,000.

Pāthri Tāluk.—Western *tāluk* of Parbhani District, Hyderābād State, with an area of 784 square miles. Including *jāgīrs*, the population in 1901 was 119,324, compared with 123,553 in 1891, the decline being due to the famine of 1900. The *tāluk* contains two towns, PĀTHRI (population, 5,828), the head-quarters, and MĀNWAT (7,395);

and 170 villages, of which 19 are *jāgīr*. In 1905 this *tāluk* received 8 villages from the Ambarh *tāluk* of Aurangābād District, and gave 6 villages to that *tāluk* in exchange. The land revenue in 1901 was 3·8 lakhs. The Godāvari river separates it from Bhīr District on the south. The soils are chiefly alluvial and *regar*. North is the *jāgīr tāluk* of Partūr; population (1901), 28,213. It comprises 90 villages; and Partūr (4,043), its head-quarters, is a station on the Hyderābād-Godāvari Valley Railway. It has an area of about 374 square miles, and contains a ginning factory, a State post office and a British sub-post office, a school, and a dispensary, the last two being maintained by the *jāgīr* authorities.

Pāthri Town.—Head quarters of the *tāluk* of the same name in Parbhani District, Hyderābād State, situated in 19° 15′ N. and 76° 27′ E. Population (1901), 5,828. The town contains a *tahsīl* and police inspector's office, a post office, and two schools.

Pathyār.—Village in Kāngra District, Punjab, 12 miles south-east of Dharmsāla. Population (1901), 1,983. An inscription of a primitive type, cut in both the Brahmī and Kharoshthī scripts, in letters of remarkable size, recording the dedication of a tank, probably in the third century B.C., has been found here. The village suffered serious damage in the earthquake of April 4, 1905.

[*Epigraphia Indica*, vol. vii, p. 116.]

Patiāla State.—The largest in area, wealth, and population of the three Phūlkiān States, Punjab, and the most populous of all the Native States in the Province, though second to Bahāwalpur in area. It lies mainly in the eastern plains of the Punjab, which form part of the great natural division called the Indo-Gangetic Plain West; but its territories are somewhat scattered, as, owing to historical causes, it comprises a portion of the Simla Hills and the Nārnaul *ilāka*, which now constitutes the *nizāmat* of Mohindargarh, in the extreme south-east on the borders of Jaipur and Alwar States in Rājputāna. The territory is interspersed with small tracts or even single villages belonging to the States of Nābha, Jīnd, and Māler Kotla, and to the British Districts of Ludhiāna, Ferozepore, and Karnāl, while, on the other hand, it includes several detached villages or groups of villages which lie within the natural borders of those States and Districts.

Its scattered nature makes it impossible to describe its boundaries clearly and succinctly, but briefly it may be described as consisting of three portions. The main portion, lying between 29° 23′ and 30° 55′ N. and 74° 40′ and 76° 59′ E., and comprising the plains portion of the State west of the Jumna valley and south of the Sutlej, is bordered on the north by the Districts of Ludhiāna and Ferozepore; on the east by Karnāl and Ambāla; on the south by the State of Jīnd and Hissār District; and on the west by Hissār. This portion forms a rough parallelo-

gram, 139 miles in length from east to west, and 125 miles from north to south, with an appendage on the south lying south of the Ghaggar river and forming part of the *nizāmat* of Karmgarh. The second block lies in the Siwālik Hills, between 30° 40′ and 31° 10′ N. and 76° 49′ and 77° 19′ E. It is bordered on the north by the Hill States of Bhāgal, Dhāmi, and Bhajji; on the east by those of Koti, Keonthal, and Sirmūr; on the south by Ambāla District; and on the west by the States of Nālāgarh and Mailog, and by Ambāla District. This portion is 36 miles from north to south, and 29 miles from east to west, and forms a part of the *nizāmat* of Pinjaur. The third block, the *nizāmat* of Mohindargarh, lies between 27° 47′ and 28° 28′ N. and 75° 56′ and 76° 17′ E., and is entirely surrounded by Native States—Jīnd to the north, Alwar and Nābha to the east, and Jaipur to the south and west. It is 45 miles from north to south, and 22 miles from east to west.

Physical aspects.

No great river flows through the State or along its borders, the chief stream being the Ghaggar, which runs in an ill-defined bed from the north-east of its main portion south-west through the Pawādh to the Bāngar and thence in a more westerly direction, separating the Pawādh from the Bāngar (Narwāna *tahsīl*), after which it leaves Patiāla territory. The other streams are mere seasonal torrents. They include the Sirhind Choa or stream which enters the State near Sirhind and traverses the Fatehgarh, Bhawānigarh, and Sunām *tahsīls*, following probably the alignment of the canal cut by Fīroz Shāh III about 1361. South of this through the Bhawānigarh and Karmgarh *tahsīls* flows the Jhambowāli Choi, and the Patiālewāli Nadī, which passes the capital. Both fall into the Ghaggar. There are minor streams in the Pinjaur *tahsīl* and the Mohindargarh *nizāmat*. In the former alone are there any hills of importance, the rest of the State being a level plain.

Geologically, the State may be divided into the Patiāla Siwāliks, composed entirely of Tertiary and principally of Upper Tertiary deposits; the Arāvalli outliers in Mohindargarh; and the portion which lies in the Indo-Gangetic alluvium.

Botanically, the State includes a large portion of the Eastern Punjab, belonging partly to the upper Gangetic plain, and partly to the desert area; the territories of Nārnaul, &c., in north-eastern Rājputāna, with a desert flora; and a tract near Simla in the Outer Himālayas, whose flora is practically that described in the *Flora Simlensis*. The *kīkar* (*Acacia arabica*), which grows abundantly in the Pawādh and Dūn, is used for all agricultural purposes. The *beri* (*Zizyphus Jujuba*) is planted near wells and in fields, and in the Mohindargarh *nizāmat* and at Sunām, Sāmāna, and Sanaur in gardens. Banūr and Sirhind, the eastern parts of the Pawādh, are noted for their mangoes. The *pīpal* (*Ficus religiosa*), *barota* (*Ficus indica*), and *nīm* (*Melia Azadirachta*)

are planted close to wells and ponds near villages. The *shīsham* (*Dalbergia Sissoo*) is planted in avenues along the canals, and *siras* (*Albizzia Lebbek*) on the road-sides. The *frāns* (*Tamarix orientalis*), common near villages, is used for roofing. The *dhāk* (*Butea frondosa*) is found in marshy lands and *bīrs* (reserves). The *jand* (*Prosopis spicigera*), *kīkar*, *reru*, and *jāl* are common in the Jangal, Bāngar, and Mohindargarh. The *khair* (*Acacia Catechu*) and *gugal* (*Balsamodendron Mukul*) are common in the Mohindargarh *nizāmat*, and the *khajūr* (*Phoenix dactylifera*) in Pinjaur, Dūn, and in the Bet (Fatehgarh *tahsīl*).

Chītal (spotted deer), *charkh*, *kākar* (barking-deer), musk deer, *gural*, and leopard are common in the hills; and the following mammals are found throughout the State: wolf, jackal, fox, wild cat, otter (in the Bet), wild hog (in the *bīrs*), antelope, *nīlgai* (in the *bīrs*, Bet, Narwāna, and Mohindargarh), monkeys (in the Narwāna *tahsīl*), and gazelle (*chinkāra*).

Game-birds include peafowl, partridges (black and grey), quail, lapwing, *chikor*, and pheasant (in the hills). The crane, snipe, green pigeon, goose, and sand-grouse are all seasonal visitors. Among venomous snakes are the cobra, *chitkabra* or *kauriāla* (found everywhere), *dhāman*, *ragadbans*, and *padma* (in the Mohindargarh *nizāmat*).

The healthiest parts of the State are the Bāngar and Jangal tracts and the Mohindargarh *nizāmat*. The Bet and the *thānas* of Ghurām Ghanaur and Banūr are very unhealthy, consisting largely of swamps. In the Pawādh, where there is no marsh-land, the general health is fair. The climate of the hills is excellent, except in the Pinjaur *thāna*. In the Pinjaur hills the winter is cold, and the rainy season begins somewhat earlier than in the plains, while in summer the heat is moderate. In the Jangal tract and the Mohindargarh *nizāmat* the heat is intense in the hot season, which begins early, and the air is dry all the year round. But if the sky is clear the nights are generally cool.

The rainfall, like the temperature, varies considerably in different parts of the State. About Pinjaur and Kālka at the foot of the Simla Hills it averages 40 inches, but decreases away from the Himālayas, being probably 30 inches at Sirhind, 25 at Patiāla and Pail, 20 at Bhawānigarh, and only 12 or 13 at Bhatinda and in the Mohindargarh *nizāmat*. In the south-west the rainfall is not only less in amount, but more capricious than in the north and east. Fortunately the zone of insufficient rainfall is now for the most part protected by the Sirhind Canal, but Mohindargarh is still liable to severe and frequent droughts.

Patiāla town lies in a depression, and there were disastrous floods in 1852, 1887, and 1888. The greatest achievement of the State Public Works department has been the construction of protective works, which have secured the town from the possibility of such calamities in future.

The earlier history of Patiāla is that of the PHŪLKIĀN STATES. Its history as a separate power nominally dates from 1762, in which year Ahmad Shāh Durrāni conferred the title of Rājā upon Ala Singh, its chief; but it may be more justly regarded as dating from 1763, when the Sikh confederation took the fortress of Sirhind from Ahmad Shāh's governor, and proceeded to partition the old Mughal province of Sirhind. In this partition Sirhind itself, with its surrounding country, fell to Rājā Ala Singh. That ruler died in 1765, and was succeeded by his grandson Amar Singh, whose half-brother Himmat Singh also laid claim to the throne, and after a contest was allowed to retain possession of the Bhawānigarh *pargana*. In the following year Rājā Amar Singh conquered Pail and Isru from Māler Kotla, but the latter place was subsequently made over to Jassa Singh Ahlūwālia. In 1767 Amar Singh met Ahmad Shāh on his last invasion of India at Karābawāna, and received the title of Rājā-i-Rājgān. After Ahmad Shāh's departure Amar Singh took Tibba from Māler Kotla, and compelled the sons of Jamāl Khān to effect a peace which remained unbroken for many years. He next sent a force under his general Bakhshi Lakhna to reduce Pinjaur, which had been seized by Gharīb Dās of Mani Mājra, and in alliance with the Rājās of Hindūr, Kahlūr, and Sirmūr captured it. He then invaded the territory of Kot Kapūra, but its chief Jodh having been slain in an ambush, he retired without further aggression. His next expedition was against the Bhattis, but in this he met with scant success; and the conduct of the campaign was left to the chief of Nābha, while Amar Singh turned his arms against the fortress of Govindgarh, which commanded the town of Bhatinda. After a long struggle it was taken in 1771. Soon after this Himmat Singh seized his opportunity and got possession of Patiāla itself, but he was induced to surrender it, and died in 1774. In that year a quarrel broke out between Jīnd and Nābha, which resulted in the acquisition of Sangrūr by Jīnd from Nābha, Patiāla intervening to prevent Jīnd from retaining Amloh and Bhadson also. Amar Singh next proceeded to attack Saifābād, a fortress only 4 miles from Patiāla, which he took with the assistance of Sirmūr. In return for this aid, he visited that State and helped its ruler Jagat Parkāsh to suppress a rebellion. In a new campaign in the Bhatti country he defeated their chiefs at Begrān, took Fatehābād and Sirsa, and invested Rania, but was called on to repel the attack made on Jīnd by the Muhammadan governor of Hānsi. For this purpose he dispatched Nānu Mal, his Dīwān, with a strong force, which after defeating the governor of Hānsi overran Hānsi and Hissār, and Rania fell soon after. But the Mughal government under Najaf Khān, its minister, made a last effort to regain the lost districts. At the head of the imperial troops, he seized Karnāl

History.

and part of Rohtak; and the Rājā of Patiāla, though aided for a consideration by Zābita Khān Rohilla, met Najaf Khān at Jīnd and amicably surrendered Hānsi, Hissār, and Rohtak, retaining Fatehābād, Rania, and Sirsa as fiefs of the empire. The wisdom of this moderation was evident. In 1777 Amar Singh overran the Farīdkot and Kot Kapūra districts, but did not attempt to annex them, and his newly-acquired territories taxed his resources to the utmost. Nevertheless, in 1778 he harried the Mani Mājra territory and reduced Gharīb Dās to submission. Thence he marched on Siālba, where he was severely defeated by its chief and a strong Sikh coalition. To retrieve this disaster Amar Singh formed a stronger confederacy, enticed away the Siālba troops by offers of higher pay, and at length secured the submission of the chief without bloodshed. In 1779 the Mughal forces marched on Karnāl, Desu Singh, Bhai of Kaithal, being in alliance with them, and hoping by their aid to crush Patiāla; but the Delhi minister found it more profitable to plunder the Bhai, and the Sikhs then united to oppose his advance. He reached Kuhrām, but then retreated, in fear of the powerful forces arrayed against him.

In 1781 Amar Singh died of dropsy, and was succeeded by his son Sāhib Singh, then a child of six. Dīwān Nānu Mal, an Agarwāl Baniā of Sunām, became Wazīr and coped successfully with three distinct rebellions headed by relatives of the Rājā. In 1783 occurred a great famine which disorganized the State. Eventually Nānu Mal was compelled to call in the Marāthās, who aided him to recover Banūr and other places; but in 1788 they compelled him to pay blackmail, and in 1790, though he had been successful against the other enemies of Patiāla, he could not prevent them from marching to Sūhlar, 2 miles from Patiāla itself. Saifābād had been placed in their hands, and Nānu Mal's fall from power quickly followed. With him fell Rāni Rajindar, cousin of Amar Singh, a woman of great ability and Nānu Mal's chief supporter, who had induced the Marāthās to retire and visited Muttra to negotiate terms with Sindhia in person. Sāhib Singh, now aged fourteen, took the reins of state into his own hands, appointing his sister Sāhib Kaur to be chief minister. In 1794 the Marāthās again advanced on Patiāla, but Sāhib Kaur defeated them and drove them back on Karnāl. In this year Bedi Sāhib Singh attacked Māler Kotla and had to be bought off by Patiāla. In 1798 the Bedi attacked Raikot, and, though opposed by the Phūlkiān chiefs, compelled its ruler to call in George Thomas, who advanced on Ludhiāna, where the Bedi had invested the fort, and compelled him to raise the siege. Thomas then retired to Hānsi; but taking advantage of the absence of the Sikh chiefs at Lahore, where they had assembled to oppose the invasion of Shāh Zamān, he again advanced and laid siege to Jīnd. On this the Phūlkiān chiefs hastened back to the relief

of Jīnd and compelled Thomas to raise the siege, but were in turn defeated by him. They then made peace with Thomas, who was anxious to secure their support against the Marāthās. Sāhib Singh now proceeded to quarrel with his sister, and she died not long afterwards, having lost all influence in the State. Thomas then renewed his attacks on the Jīnd State, and as the Phūlkiān chiefs united to resist him he invaded Patiāla territory and pillaged the town of Bhawānigarh. A peace was, however, patched up in 1801, and Thomas retired to Hānsi, whereupon the Cis-Sutlej chiefs sent an embassy to General Perron at Delhi to ask for assistance, and Thomas was eventually crushed. The British now appeared on the scene; but the Phūlkiān chiefs, who had been rescued from Thomas by the Marāthās, were not disposed to join them, and remained neutral throughout the operations round Delhi in 1803–4. Though Holkar was hospitably received at Patiāla after his defeat at Dīg, he could not obtain much active assistance from Sāhib Singh. After Holkar's flight to Amritsar in 1805, the dissensions between Sāhib Singh and his wife reached a climax, and the Rāni attacked both Nābha and Jīnd. These States then invoked the intervention of Ranjīt Singh, Mahārājā of Lahore, who crossed the Sutlej in 1806. Ranjīt Singh did little to settle the domestic differences of the Patiāla Rājā, but despoiled the widows of the Raikot chief of many villages. Patiāla, however, received no share of the plunder; and on Ranjīt Singh's withdrawal the conflict between Sāhib Singh and his wife was renewed. In 1807 Ranjīt Singh reappeared at Patiāla, when he conferred Banūr and other districts, worth Rs. 50,000 a year, on the Rāni and then marched on Naraingarh.

It was by this time clear to the Cis-Sutlej chiefs that they had to choose between absorption by Ranjīt Singh and the protection of the British. Accordingly, in 1808, Patiāla, Jīnd, and Kaithal made overtures to the Resident at Delhi. No definite promise of protection was given at the time; but in April, 1809, the treaty with Ranjīt Singh secured the Cis-Sutlej territory from further aggression on his part, and a week later the desired proclamation of protection was issued, which continued to 'the chiefs of Mālwā and Sirhind . . . the exercise of the same rights and authority within their own possessions which they enjoyed before.' Two years later it became necessary to issue another proclamation of protection, this time to protect the Cis-Sutlej chiefs against one another. Meanwhile internal confusion led to the armed interposition of the British Agent, who established the Mahārāni As Kaur as regent with sole authority. She showed administrative ability and an unbending temper until the death of Mahārājā Sāhib Singh in 1813. He was succeeded by Mahārājā Karm Singh, who was largely influenced at first by his mother and

her minister Naunidhrai, generally known as Missar Naudha. The Gurkha War broke out in 1814, and the Patiāla contingent served under Colonel Ochterlony. In reward for their services, the British Government made a grant of sixteen *parganas* in the Simla Hills to Patiāla, on payment of a *nazarāna* of Rs. 2,80,000. Karm Singh's government was hampered by quarrels, first with his mother and later with his younger brother, Ajīt Singh, until the Hariāna boundary dispute demanded all his attention. The English had overthrown the Marāthās in 1803 and had completed the subjugation of the Bhattis in Bhattiāna in 1818; but little attention was paid to the administration of the country, and Patiāla began to encroach upon it, growing bolder each year, until in 1835 her colonists were firmly established. When the attention of the British Government was at last drawn to the matter, and a report called for, the Mahārājā refused to admit the British claims, declined arbitration, and protested loudly when a strip of country more than a hundred miles long and ten to twenty broad was transferred from his possessions to those of the British Government. The Government, however, listened to his protest, the question was reopened, and was not finally settled till 1856, when some 41 villages were handed over to Patiāla. When hostilities between the British and the government of Lahore became certain at the close of 1845, Mahārājā Karm Singh of Patiāla declared his loyalty to the British; but he died on December 23, the day after the battle of Ferozeshāh, and was succeeded by his son Narindar Singh, then twenty-three years old. It would be idle to pretend that the same active spirit of loyalty obtained among the Cis-Sutlej chiefs in 1845 as showed itself in 1857. The Mahārājā of Patiāla knew that his interests were bound up with the success of the British, but his sympathies were with the Khālsa. However, he provided the British with supplies and carriage, besides a contingent of men. At the close of the war, he was rewarded with certain estates resumed from the Rājā of Nābha. The Mahārājā sanctioned the abolition of customs duties on the occasion of Lord Hardinge's visit in 1847.

The conduct of the Mahārājā on the outbreak of the Mutiny is beyond praise. He was the acknowledged head of the Sikhs, and his hesitation or disloyalty would have been attended with the most disastrous results, while his ability, character, and high position would have made him a formidable leader against the British. On hearing of the outbreak, he marched that evening with all his available troops in the direction of Ambāla. In his own territories he furnished supplies and carriage, and kept the roads clear. He gave a loan of 5 lakhs to Government and expressed his willingness to double the amount. His troops served with loyalty and distinction on many

occasions throughout the campaign. Of the value of the Mahārājā's adhesion the Commissioner wrote: 'His support at such a crisis was worth a brigade of English troops to us, and served more to tranquillize the people than a hundred official disclaimers could have done.' After the Mutiny the Nārnaul division of the Jhajjar territory, jurisdiction over Bhadaur, and the house in Delhi belonging to Begam Zīnat Mahal fell to the share of Patiāla. The Mahārājā's honorary titles were increased at the same time. The revenue of Nārnaul, which had been estimated at 2 lakhs, was found to be only Rs. 1,70,000. On this, the Mahārājā appealed for more territory. The British Government had given no guarantee, but was willing to reward the loyal service of Patiāla still further; and consequently parts of Kānaud and Buddhuāna, in Jhajjar, were conferred on the Mahārājā. These new estates had an income of about one lakh, and the Mahārājā gave a *nazarāna* equal to twenty years' revenue.

In 1858 the Phūlkiān chiefs had united in asking for concessions from the British Government, of which the chief was the right of adoption. This was, after some delay, granted, with the happiest results. The power to inflict capital punishment had been withdrawn in 1847, but was exercised during the Mutiny. This power was now formally restored. The Khamānon villages (the history of which is given under 'Administration' on p. 47) were transferred to Patiāla in 1860. Mahārājā Narindar Singh died in 1862 at the age of thirty-nine. He was a wise ruler and brave soldier. He was one of the first Indian chiefs to receive the K.C.S.I., and was also a member of the Indian Legislative Council during Lord Canning's viceroyalty.

His only son, Mohindar Singh, was a boy of ten at his father's death. A Council of Regency was appointed, which carried on the administration for eight years. The Mahārājā only lived for six years after assuming power. During his reign the Sirhind Canal was sanctioned, though it was not opened until 1882. Patiāla contributed one crore and 23 lakhs to the cost of construction. The Mahārājā was liberal in measures connected with the improvement and general well-being of the country. He gave Rs. 70,000 to the University College, Lahore, and in 1873 he placed 10 lakhs at the disposal of Government for the relief of the famine-stricken people of Bengal. In 1875 he was honoured by a visit from Lord Northbrook, who was then Viceroy, when the Mohindar College was founded for the promotion of higher education in the State. Mohindar Singh died suddenly in 1876. He had received the G.C.S.I. in 1871.

A long minority followed, for Mahārājā Rājindar Singh was only four when his father died. During his minority, which ceased in 1890, the administration was carried on by a Council of Regency,

composed of three officials under the presidency of Sardār Sir Dewa Singh, K.C.S.I. The finances of the State were carefully watched, and considerable savings effected, from which have been met the charges in connexion with the Sirhind Canal and the broad-gauge line of railway between Rājpura, Patiāla, and Bhatinda. In 1879 the Patiāla State sent a contingent of 1,100 men to the Afghān War. The Mahārājā was exempted from the presentation of *nazars* in Darbār, in recognition of the services rendered by his troops on this occasion. He was the first chief to organize a corps of Imperial Service troops, and served with one regiment of these in the Tīrāh expedition of 1897. Mahārājā Rājindar Singh died in 1900, and a third Council of Regency was formed. The present Mahārājā, Bhūpindar Singh, was born in 1891. He is now being educated at the Aitchison College, Lahore. He ranks first amongst the chiefs of the Punjab, and is entitled to a salute of 17 guns.

In 1900 it was decided by the Government of India to appoint a Political Agent for Patiāla, and the other two Phūlkiān States of Jīnd and Nābha were included in the Agency, to which was afterwards added the Muhammadan State of Bahāwalpur. The headquarters of the Agency are at Patiāla.

The Siva temples at KALAIT, in the Narwāna *tahsīl*, contain some old carvings supposed to date from the eleventh century. Of PINJAUR, it has been remarked that no place south of the Jhelum has more traces of antiquity. The date of the sculptured temples of Bhīma Devi and Baijnāth has not been determined. The walls of the houses, &c., in the village are full of fragments of sculptures. The gardens, which are attributed to Fidai Khān, the foster-brother of Aurangzeb, were modelled on the Shālamār gardens at Lahore, and are surrounded by a wall originally made of the débris of ancient buildings, but the fragments of sculpture built into it are much damaged. At SUNĀM are the remains of one of the oldest mosques in India. At SIRHIND Malik Bahlol Lodī assumed the title of Sultān in 1451, and his daughter was buried here in 1497, in a tomb still existing. The oldest buildings in the place are two fine double-domed tombs, traditionally known as those of the Master and the Disciple. The date is uncertain, but the style indicates the fourteenth century. Shāh Zamān, the refugee monarch of Kābul, was buried in an old graveyard of great sanctity near the town. The first certain mention of Sirhind is in connexion with events which occurred in 1360, but the place has been confused by historians with Bhatinda or Tabarhind, a much older place. The fort at Sirhind was originally named Fīrozpur, probably after Fīroz Shāh. The tomb of Ibrāhīm Shāh at NĀRNAUL, erected by his grandson, the emperor Sher Shāh (1540–5), with its massive proportions, deeply recessed

doorways, and exquisite carvings, is a fine example of the Pathān style. Bhatinda was a place of great importance in the pre-Mughal days; but the date of the fort, which is a conspicuous feature in the landscape for miles round, is unknown. At Patiāla and at Bahādurgarh, near Patiāla, are fine forts built by chiefs of Patiāla.

Population.

The State contains 14 towns and 3,580 villages. Its population at the last three enumerations was: (1881) 1,467,433, (1891) 1,583,521, and (1901) 1,596,692. The small increase in the last decade was due to the famines of 1897 and 1900, which caused much emigration from the Mohindargarh *nizāmat*. The State is divided into the five *nizāmats*, or administrative districts, of KARMGARH, PINJAUR, AMARGARH, ANĀHADGARH, and MOHINDARGARH. The head-quarters of these are at Bhawānigarh, Basi, Barnāla, Rājpura, and Kānaud respectively. The towns are PATIĀLA, the capital, NĀRNAUL, BASI, Govindgarh or BHATINDA, SAMĀNA, SUNĀM, Mohindargarh or KĀNAUD, SANAUR, BHADAUR, BARNĀLA, BANŪR, PAIL, SIRHIND, and HADIĀYĀ.

The following table shows the chief statistics of population in 1901:—

Nizāmat.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Karmgarh	1,834	4	665	500,635	273·0	− 0·8	15,370
Pinjaur	784	1	1,588	212,866	271·4	− 5·97	3,695
Amargarh	858	3	605	365,448	425·9	+ 1·06	7,596
Anāhadgarh	1,836	4	454	377,367	205·5	+ 8·62	8,899
Mohindargarh	575	2	268	140,376	243·8	− 5·09	2,537
State total	5,412	14	3,580	1,596,692	295·0	+ 0·83	38,097

NOTE.—The figures for the areas of *nizāmats* are taken from revenue returns. The total State area is that given in the *Census Report*.

Hindus form 55 per cent. of the total, and Sikhs, though Patiāla is the leading Sikh State of the Punjab, only 22 per cent., slightly less than Muhammadans. Jains, fewer than 3,000 in number, are mostly found in the Mohindargarh *nizāmat*. The density, though higher than the Provincial average for British Districts, is lower than the average of the Districts and States situated in the Indo-Gangetic Plain West. It is lowest in the Anāhadgarh *nizāmat*, where less than 14 per cent. of the total area is cultivated. There is not, however, much room for extension of cultivation, as the cultivable tracts are fully populated. Punjābi is the language of 88 per cent. of the population.

Nearly every caste in the Punjab is represented in Patiāla, but the Jats or Jāts, who comprise 30 per cent. of the population, are by far

its strongest element. Other cultivating castes are the Rājputs, Ahīrs (in Mohindargarh), Gūjars, Arains, and Kambohs. Brāhmans and Fakīrs number nearly 8 per cent. of the population; and artisan and menial castes, such as the Chamārs, Chūhrās, Tarkhāns, &c., comprise most of the residue. Of the whole population, 62 per cent. are dependent on agriculture; and the State has no important industries, other than those carried on in villages to meet the ordinary wants of an agricultural population.

In 1901 the State contained 122 native Christians. The principal missionary agency is that of the American Reformed Presbyterian Church, which was established in 1892, when Mahārājā Rājindar Singh permitted Dr. Scott, a medical missionary of that Church, to establish a mission at Patiāla town, granting him a valuable site for its buildings. The only other society working among the native Christians is the American Methodist Episcopal Mission, established at Patiāla in 1890. In the village of Rāmpur Katāni (Pail *tahsīl*) an Anglo-vernacular primary school, started by the Ludhiāna American Mission, teaches 22 Jat and Muhammadan boys. There is also a small mission school at Basi, where twelve or thirteen sweeper boys are taught.

Agriculture.

Agricultural conditions are as diversified as the territory is scattered. In the Pinjaur *tahsīl* they resemble those of the surrounding Simla Hill States, and in the Mohindargarh *nizāmat* those of Rājputāna. Elsewhere the State consists of level plains with varying characteristics. The Rājpura, Banūr, and Ghanaur *tahsīls* of the Pinjaur *nizāmat*, the Patiāla and part of the Bhawānigarh *tahsīl* of the Karmgarh *nizāmat*, and the Fatehgarh (Sirhind) and Sāhibgarh (Pail) *tahsīls* of the Amargarh *nizāmat* lie in the Pawādh, a naturally fertile tract of rich loam. Sirhind and Pail are both protected by wells, and, though not irrigated by canals, are the richest in the State from an agricultural point of view. The Narwāna *tahsīl* lies in the Bāngar, a plateau or upland in which the spring-level is too low for wells to be profitably sunk. The remaining parts of these three *nizāmats*, and the whole of Anāhadgarh, lie in the Jangal, a tract naturally fertile, but unproductive owing to the absence of rain and the depth of the spring-level until irrigated by the Sirhind Canal. The Jangal consists of a great plain of soft loam covered with shifting sandhills, with a few wells on the borders of the Pawādh; but agriculturally it is in a transition stage, as the canal permits of intensive cultivation.

The *bhaiyāchārā* is the general form of tenure, except in Mohindargarh, where the *pattīdāri* form is prevalent.

The main agricultural statistics for 1903–4 are given in the table on the next page.

The principal food-grains cultivated are gram (area in 1903–4,

660 square miles), barley and gram mixed (587), wheat (432), *bājra* (367), *jowār* (362), wheat and gram mixed (284), and maize (239). Mustard covered 286 square miles, *chari* (*jowār* grown for fodder) 238, and cotton 72. In the hill tract (Pinjaur *tahsīl*) potatoes, ginger, turmeric, and rice are the most valuable crops, and Indian corn is largely grown for food. In the Sirhind and Pail *tahsīls* sugar-cane is the most paying crop. It is also grown in parts of the Patiāla, Amargarh, and Bhawānigarh *tahsīls*. Cotton is grown generally in all but the sandy tracts of the south-west, and it forms the staple crop in Narwāna. Tobacco is an important crop in the Pawādh tract. Rice is grown in the three *tahsīls* of the Pinjaur *nizāmat* which lie in the Pawādh. Wheat is the staple crop in the north-western half, barley and gram, separately or mixed, in the south and west, and millet in the Mohindargarh *nizāmat*. In the latter millet is an autumn crop, dependent on the monsoon rains. In the rest of the State the spring harvest is more important than the autumn harvest, and its importance increases as canal-irrigation is developed.

Nizāmat.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Karmgarh . .	1,834	1,338	368	386
Pinjaur . . .	784	467	143	217
Amargarh . .	858	672	243	128
Anāhadgarh . .	1,836	1,661	465	96
Mohindargarh .	575	445	38	49
Total	5,887	4,583	1,257	876

Cash rents are very rare. The landlord's share of the produce varies from one-fifth to one-half, and one-third may be taken as the average rate. Land irrigated from wells usually pays a higher rate than other land, except in the dry tracts to the west and south, where the soil is inferior and the expense of working wells heavy. The highest rates are paid in the submontane country to the north and east of Patiāla. The wages of unskilled labour when paid in cash, as is generally the case in towns and more rarely in the villages, vary from 3 annas a day in outlying tracts to 6 annas in the capital. A reaper earns from 6 to 12 annas a day, and a carpenter from 8 to 12 annas or even R. 1 in the hills. Prices have risen about 12 per cent. in the last fifteen years.

Few State loans to cultivators were made prior to the revision of the settlement which began in 1901 and is still proceeding, and very high rates of interest were charged. During the three years ending 1906, a total of nearly Rs. 80,000 was advanced. The rate of interest on loans for the construction of wells and the purchase of bullocks is just under $4\frac{3}{4}$ per cent., while loans for the purchase of seed are given free of interest.

The cattle of the Jangal in the south-west and of Mohindargarh are fine up-standing animals, but the cows are poor milkers, and cattle-breeding hardly exists. Ponies of a fair class are raised in the Bāngar, in the Narwāna *tahsīl*; and there is a State stud at Patiāla, established in 1890, with 5 horse, 1 pony, and 3 donkey stallions, and 25 brood-mares.

Fairs are held twice a year at Karauta and Dharson, both in the Mohindargarh *nizāmat*, at which about 20,000 cattle change hands yearly. Cattle fairs were also started in 1903–4 at Bhatinda, Barnāla, Mānsa, Boha, Dhamtānsāhib, Sunām, Patiāla, Rājpura, Dhūri, Sirhind, and Kānaud.

Of the total area under cultivation in 1903–4, 1,257 square miles, or 27 per cent., were classed as irrigated. Of this area, 342 square miles, or 27 per cent., were irrigated from wells, and the rest from canals. The State contains 12,696 wells in use, besides unbricked wells, lever wells, and water-lifts. Patiāla owns 84 per cent. of the share (36 per cent.) of the Sirhind Canal possessed by the Phūlkiān States. The Hissār branch of the Western Jumna Canal, which irrigated 85 square miles in 1903–4, also secures against famine a large part of the Narwāna *tahsīl*; and in the *tahsīls* of Banūr and Ghanaur a small inundation canal from the Ghaggar, which irrigated 14 square miles in 1903–4, serves a number of villages. Wells are mainly confined to the Pawādh and the part of the Jangal which adjoins it. Wells are also used in the Mohindargarh *nizāmat*, but the water in some is brackish and only beneficial after rain. Jats generally use the bucket and Arains the Persian wheel on a masonry well, but some of the Arains and Kambohs in the Banūr *tahsīl* use the *dingli* or lift.

Forests.

In the hill *thānas* of Pinjaur, Dharmpur, and Srīnagar, in the Pinjaur Dūn and Siwāliks, the State possesses valuable forests, in which considerable quantities of *chīl* (*Pinus longifolia*), pine, oak, *deodār*, and bamboo are found. The first and second-class forests have an area of 109 square miles, with 171 square miles of grass lands. It also possesses several 'reserves' (*bīrs*) aggregating 12,000 acres in the plains. The forests are controlled by a Conservator, who has two assistants in the hills and one in the plains. Avenues of *shīsham* (*Dalbergia Sissoo*) are planted along the canal banks, and of *kīkar* (*Acacia arabica*) along the roads. The forest revenue in 1903–4 was Rs. 51,000.

Kankar is found at many places. Slate, limestone, and sandstone occur in the Pinjaur hills, and in the detached hills of the Mohindargarh *nizāmat*. Saltpetre is manufactured in the Rājpura, Ghanaur, Banūr, Narwāna, and Nārnaul *tahsīls*, and carbonate of soda in the Bāngar. Copper and lead ores are found near Solon; and mica and copper and iron ores in the Mohindargarh *nizāmat*.

Manufactures, other than the ordinary village industries, are virtually

confined to the towns. Cotton fabrics are made at Sunām, and silk at Patiāla. Gold lace is manufactured at Patiāla, and *sūsī* at Patiāla and Basi, the latter being of fine quality. At Samāna and Nārnaul legs for beds are turned, and at Pail carved doorways are made. Ironware is also produced at four villages. Brass and bell-metal are worked at Patiāla and Bhadaur, and at Kānaud (Mohindargarh), where ironware is also manufactured. The only steam cotton-ginning factory in the State is at Narwāna. A workshop is situated at Patiāla. The number of factory hands in 1903-4 was 80.

Trade and communications.

The State exports grain in large quantities, principally wheat, gram, rapeseed, millet, and pulses, with *ghī*, raw cotton and yarn, red pepper, saltpetre, and lime. It imports raw and refined sugar and rice from the United Provinces, piece-goods from Delhi and Bombay, and various other manufactures. The principal grain marts are at Patiāla, Nārnaul, Basi, Barnāla, Bhatinda, and Narwāna; but grain is also exported to the adjoining British Districts and to Nābha.

The North-Western Railway traverses the north of the State through Rājpura and Sirhind, and the Rājpura-Bhatinda branch passes through its centre, with stations at the capital, Dhūri Junction, Barnāla, and Bhatinda. The latter line is owned by the State, but worked by the North-Western Railway. The Ludhiāna-Dhūri-Jākhal Railway, with stations at Dhūri and Sunām, also serves this part of the State. The Southern Punjab Railway passes along the southern border, with a station at Narwāna in the Karmgarh *nizāmat.* A mono-rail tramway, opened in February, 1907, connects Basi with the railway at Sirhind. There are 185 miles of metalled roads, all in the plains, and about 194 miles (113 in the plains and 81 in the hills) of unmetalled roads in the State. Of the former, the principal connects Patiāla with Sunām (43 miles), one branch leading to Sangrūr, the capital of Jīnd State, and another to Samāna. The others are mainly feeder roads to the railways. There are avenues of trees along 142 miles of road.

The postal arrangements of the State are governed by the convention of 1884, as modified in 1900, which established a mutual exchange of all postal articles between the British Post Office and the State post. The ordinary British stamps, surcharged 'Patiāla State,' are used. Under an agreement concluded in 1872, a telegraph line from Ambāla to Patiāla was constructed by Government at the expense of the State, which takes all the receipts and pays for the maintenance of the line.

Famine.

The earliest and most terrible of the still-remembered famines was the *chālīsa* of Samvat 1840 (A.D. 1783), which depopulated huge tracts in the Southern Punjab. In 1812 and 1833 the State again suffered. The famine of 1860-1 was the first in which relief was systematically organized by the State. Relie

works were opened; over 11,000 tons of grain were distributed, and $3\frac{3}{4}$ lakhs of revenue was remitted. The famine of 1897 cost the State nearly 2 lakhs in relief works alone. Three years later came the great famine of 1900. It was a fodder famine as well as a grain famine, and cattle died in large numbers. Relief measures were organized on the lines laid down for the British Districts of the Province. Nearly 4 lakhs was spent on relief works and gratuitous relief. Two lakhs of revenue was remitted and $2\frac{1}{2}$ lakhs was suspended.

Administration.

The Political Agent for the Phūlkiān States and Bahāwalpur resides at Patiāla. He is the representative of the Lieutenant-Governor, and is the channel of communication in most matters between the State authorities on the one hand and British officials or other States on the other. He has no control over the State courts, but he hears appeals from the orders of certain of the District Magistrates, &c., of British Districts, in their capacity as Railway Magistrates for the various railways which pass through Patiāla territory.

During the minority of the Mahārājā, his functions are exercised by a Council of Regency consisting of three members. There are four departments of State: the finance department (*Dīwān-i-Māl*) under the Dīwān, who deals with all matters of revenue and finance, the foreign department (*Munshī Khāna*) under the Mīr Munshī, the judicial department (*Sadr Adālat*) under the Adālatī, and the military department (*Bakhshi Khāna*) under the Bakhshī or commander-in-chief. The Chief Court was created by Mahārājā Rājindar Singh, to hear appeals from the orders of the finance, foreign, and judicial ministers. There is no regular legislative department. Regulations are drafted in the department concerned and submitted for sanction to the *Ijlās-i-Khās*, or court of the Mahārājā. Under the present arrangements the power of sanction rests with the Council of Regency, the members of which possess the power of initiation. For general administrative purposes the State is divided into five *nizāmats*, each being under a *nāzim*, who exercises executive powers and has subordinate to him two or three *naib* (deputy) *nāzims* in each *nizāmat*, and a *tahsīldār* in each *tahsīl*.

The lowest court of original jurisdiction in civil and revenue cases is that of the *tahsīldār*, from whose decisions appeals lie to the *nāzim*. The next higher court is that of the *naib-nāzim*, who exercises criminal and civil powers, and from whose decisions appeals also lie to the *nāzim*. The *nāzim* is a Sessions Judge, with power to pass sentences of imprisonment not exceeding fourteen years, as well as an appellate court in criminal, civil, and revenue cases. From his decisions appeals lie in criminal and civil cases to the *Sadr Adālat*, and in revenue cases to the Dīwān, with a second appeal to the Chief Court, and

a third to the *Ijlās-i-Khās*; both the last-mentioned courts also exercise revisional jurisdiction in all cases. All sentences of death or transportation for life require the confirmation of the Mahārājā, or, during his minority, of the Council of Regency.

Special jurisdiction in criminal cases is also exercised by the following officials. The Mīr Munshī, or foreign minister, has the powers of a Sessions Judge with respect to cases in which one or both parties are not subjects of the State; cases under the Telegraph and Railway Acts are decided by a special magistrate, from whose decision an appeal lies to the Mīr Munshī; certain canal and forest officers exercise magisterial powers in respect of offences concerning those departments; and the Inspector-General exercises similar powers in respect of cases in which the police are concerned. During the settlement operations the settlement officers are also invested with power to decide revenue cases, and from their decisions appeals lie to the Settlement Commissioner. At the capital there are a magistrate and a civil judge, from whose decisions appeals lie to the *Muāwin Adālat.*

The Sikh Jats are addicted to crimes of violence, illicit distillation, and traffic in women, the Hindū Jats and the Rājputs to cattle-theft, and the Chūhrās to theft and house-breaking, while the criminal tribes—Sānsīs, Baurias, Baloch, and Mīnās—are notorious for theft, robbery, and burglary.

In 1902 a few *panchāyats* were established in the Narwāna and Govindgarh *tahsīls* for the settlement of disputes of a civil nature. The experiment has proved successful, and there are now 76 of these rural courts scattered about the State. Up to the end of 1906, they had disposed of more than 45,000 cases, the value of the claims dealt with being considerably over 60 lakhs. The parties have the right to challenge the decision of the *panchāyat* in the ordinary courts, but up to the present less than 2 per cent. of the decisions in disputed cases have been challenged in this manner.

The chief of the feudatories are the Sardārs of Bhadaur, who between them enjoy a *jāgīr* of over Rs. 70,000 per annum. Like the ruling family, they are descendants of Phūl; but in 1855 the claim of Patiāla to regard the Bhadaur chiefs as feudatories of her own was disallowed by Government, and their villages were brought under British jurisdiction. Three years later the supremacy over Bhadaur was ceded to the Mahārājā as a small portion of the reward for his loyalty in 1857. The tenure of the *jāgīr* is subject to much the same incidents in respect of lapse and commutation as similar assignments in the British portion of the Cis-Sutlej territory. There are at present six sharers in the *jāgīr*, while the widows of deceased members of the family whose shares have lapsed to the State receive maintenance allowances amounting to Rs. 8,699.

The numerous *jāgīrdārs* of the Khamānon villages receive between them over Rs. 90,000 a year from the State, and are entitled, in addition, to various dues from the villagers. Ever since 1815 Patiāla had been held responsible for the general administration of this estate, though the British Government reserved its rights to escheats and military service. In 1847 the question of bringing the villages entirely under British jurisdiction was mooted. The negotiations were prolonged until after the Mutiny, when, in 1860, Government transferred its rights in the estate to Patiāla in return for a *nazarāna* of Rs. 1,76,360. The *jāgīrdārs* are exempted from the appellate jurisdiction of the ordinary courts, and are entitled to have their appeals heard by the foreign minister. The *jāgīrdārs* of Pail constitute the only remaining group of assignees of any importance. Their *jāgīrs* amount in all to over Rs. 18,000, and are subject to the usual incidents of lapse and commutation.

The main area of the State corresponds roughly to the old Mughal *sarkār* of Sirhind, and was subject to Akbar's fiscal reforms. Formerly the State used to collect nearly all its revenue in kind, taking generally one-third of the produce as its share, calculated either by actual division or by a rough and ready appraisement. In 1862 a cash assessment was first made. It resulted in a total demand of about 30·9 lakhs, reduced three years later to 29·4 lakhs. Afterwards summary assessments were made every ten years, until in 1901 a regular settlement was undertaken, a British officer being appointed Settlement Commissioner. The present demand is 41·5 lakhs or, including cesses and other dues, 44·8 lakhs, of which 4·7 lakhs are assigned, leaving a balance of 40 lakhs realizable by the State. The revenue rates on unirrigated land vary from a minimum of R. 0-6-4 in parts of Mohindargarh to a maximum of Rs. 5-11-3 in the Bet circle of the Sirhind *tahsīl*, and on irrigated land from 12 annas in Pail to Rs. 9-9-6 in the Dhāyā circle of Sirhind. There are wide variations from circle to circle in the average rates. The average 'dry' rate in one of the Mohindargarh circles is ten annas, while in the Bet of Sirhind it is Rs. 3-14-6. Similarly, the average 'wet' rate in the Sunām *tahsīl* is Rs. 1-13-4, and in the Dhāyā of Sirhind Rs. 5-11-3.

The collections of land revenue alone and of total revenue are shown below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	32,68	32,71	33,17	34,63
Total revenue . .	40,92	53,16	65,34	66,75

The principal sources of revenue, other than land revenue, and the

amounts derived from each in 1903-4, are: public works, including irrigation and railways (14·1 lakhs), excise (2·2 lakhs), octroi (1·9 lakhs), stamps (1·7 lakhs), and provincial rates (1·4 lakhs); while the main heads of expenditure are public works (14·4 lakhs), army (9·1 lakhs), civil list (4·5 lakhs), police (4·2 lakhs), land revenue administration (4 lakhs), general administration (3 lakhs), religious and charitable endowments (1·9 lakhs), and medical (1·8 lakhs).

The right of coinage was conferred on Rājā Amar Singh by Ahmad Shāh Durrāni in 1767. No copper coin was ever minted, and only on one occasion, in the reign of Mahārājā Narindar Singh, were 8-anna and 4-anna pieces struck; but rupees and gold coins or *ashrafis* were coined at intervals up to 1895, when the mint was closed for ordinary coinage. Up to the last the coins bore the legend that they were struck under the authority of Ahmad Shāh, and the coinage of each chief bore a distinguishing device, generally a representation of some kind of weapon. The Patiāla rupee was known as the *Rājā shāhi* rupee. It was rather lighter than the British rupee, but contained the same amount of silver. Rupees known as *Nānak shāhi* rupees, which are used in connexion with religious ceremonies at the Dasahra and Dīwālī festivals, are still coined, with the inscription—

Degh, tegh o fateh nusrat be darang,
Yāft az Nānak Gurū Gobind Singh.

Prior to 1874, the distillation, the sale, and even the use of liquor were prohibited. The present arrangement is that no distillation is allowed except at the central distillery at Patiāla town. The distiller there pays a still-head duty of Rs. 4 per gallon. The licences for retail sale are auctioned, except in the case of European liquor, the vendors of which pay Rs. 200 or Rs. 100 per annum according as their sales do or do not exceed 2,000 bottles. The State is privileged to receive a number of chests of Mālwā opium every year at a reduced duty of Rs. 280 per chest of 140¼ lb. The number is fixed annually by the Government of the Punjab, and varies from 74 to 80. For anything over and above this amount, the full duty of Rs. 725 per chest is paid. The duty paid on the Mālwā opium imported has, since 1891, been refunded to the State, with the object of securing the hearty co-operation of the State officials in the suppression of smuggling. Import of opium into British territory from the Mohindargarh *nizāmat* is prohibited. The importers of opium into Patiāla pay a duty of R. 1 per seer to the State. Licences for the retail sale of opium and hemp drugs are sold by auction. Wholesale licences for the sale of liquor, opium, and drugs are issued on payment of small fixed fees.

Patiāla town was constituted a municipality in 1904 and Nārnaul in 1906.

The Public Works department was reorganized in 1903 under a

Superintending Engineer, who is subject to the control of one of the members of Council of the Regency. An extensive programme of public works has been framed, the total cost of which will be 85 lakhs; and a considerable portion of it has been carried out at a cost of 25 lakhs during the three years that have elapsed since the reorganization of the department. Public offices, *tahsīls*, police stations, schools, dispensaries, markets, and barracks have been erected. The *darbār* chamber in Patiāla Fort has been remodelled and reroofed, and is now a magnificent hall. A large Central jail has been constructed at Patiāla, and a number of new roads have been made. Among buildings erected during the last few years by private subscription may be mentioned the Victoria Memorial Poorhouse at Patiāla, which cost Rs. 80,000, and the Victoria Girls' School, which cost half that sum.

In 1903–4 the regular police force consisted of 1,973 of all ranks. The village watchmen numbered 2,775. There are 42 police stations, 3 outposts, and 17 road-posts. The force is under the control of an Inspector-General. District Superintendents are appointed for each *nizāmat* with inspectors under them, while each police station is in charge of a *thānadar*. The State contains two jails, the Central jail at the capital and the other at Mohindargarh, which hold 1,100 and 50 prisoners respectively. The Imperial Service contingent maintained by the State consists of a regiment of cavalry and two battalions of infantry. The local troops consist of a regiment of cavalry, two battalions of infantry, and a battery of artillery with eight guns. The State possesses altogether fifty serviceable guns. The total strength of the State army—officers, non-commissioned officers, and men—is 3,429.

Patiāla is the most backward of the larger States of the Punjab in point of education. The percentage of literate persons is only 2·4 (4·2 males and 0·1 females) as compared with 2·7, the average for the States of the Province. The percentage of literate females doubled between 1891 and 1901, but that of literate males declined from 5·3 to 4·2. The number of persons under instruction was 6,479 in 1880–1, 6,187 in 1890–1, 6,058 in 1900–1, and 6,090 in 1903–4. In the last year the State possessed an Arts college, 21 secondary and 89 primary (public) schools, and 3 advanced and 129 elementary (private) schools, with 538 girls in the public and 123 in the private schools. The expenditure on education was Rs. 83,303. The Director of Public Instruction is in charge of education, and under him are two inspectors.

The State possesses altogether 34 hospitals and dispensaries, of which 10 contain accommodation for 165 in-patients. In 1903–4 the number of cases treated was 198,527, of whom 2,483 were in-patients, and 10,957 operations were performed. The expenditure was Rs. 87,076, wholly met from State funds. The administration is

usually controlled by an officer of the Indian Medical Service, who is medical adviser to the Mahārājā, with nine Assistant Surgeons. The Sadr and Lady Dufferin Hospitals at the capital are fine buildings, well equipped, and a training school for midwives and nurses was opened in 1906.

Vaccination is controlled by an inspector of vaccination and registration of vital statistics, under whom are a supervisor and thirty vaccinators. In 1903-4 the number of persons successfully vaccinated was 43,782, or 27 per 1,000 of the population. Vaccination is nowhere compulsory.

The Bhadaur villages in the Anāhadgarh *tahsīl* were surveyed and mapped by the revenue staff in 1854-5, and the whole of the Mohindargarh *tahsīl* in 1858, while they were still British territory. In 1877-9 a revenue survey of the whole State, except the Pinjaur *tahsīl*, was carried out; but maps were not made except for the Mohindargarh and Anāhadgarh *nizāmats*, and for a few scattered villages elsewhere. During the present settlement, the whole of the State is being resurveyed, and the maps will be complete in 1907.

The first trigonometrical survey was made in 1847-9, and maps were published on the 1-inch and 2-inch scales; but the Pinjaur *tahsīl* was not surveyed until 1886-92, when 2-inch maps were published. A 4-inch map of the Cis-Sutlej States was published in 1863, and in the revised edition of 1897 the Pinjaur *tahsīl* was included. The 1-inch maps prepared in 1847-9 were revised in 1886-92.

[H. A. Rose, *Phūlkiān States Gazetteer* (in the press); L. H. Griffin, *The Rājās of the Punjab* (second edition, 1873); Khalīfa Muhammad Hasan, *Tārīkh-i-Patiāla* (1877); also the various Histories of the Sikhs.]

Patiāla Tahsīl (or Chaurāsi).—North-eastern *tahsīl* of the Karmgarh *nizāmat*, Patiāla State, Punjab, lying between 30° 8′ and 30° 27′ N. and 76° 17′ and 76° 36′ E., with an area of 273 square miles. The population was 121,224 in 1901, compared with 128,221 in 1891. It contains two towns, PATIĀLA (population, 53,545), the head-quarters, and SANAUR (8,530); and 197 villages. The *tahsīl* lies wholly within the Pawādh. The land revenue and cesses in 1903-4 amounted to 2·1 lakhs.

Patiāla Town.—Capital of the Patiāla State, Punjab, situated in 30° 20′ N. and 76° 28′ E., on the west bank of the Patiāla stream, 34 miles west of Ambāla cantonment, and on the Rājpura-Bhatinda branch of the North-Western Railway. It is also connected with Nābha and Sangrūr by metalled roads. Population (1901), 53,545.

After the fall of Sirhind in 1763, Rājā Ala Singh built a masonry fort on the site of Patiāla, then a petty village, from the customs dues collected at Sirhind. The inhabitants of Sirhind migrated in large

numbers to Patiāla, which has ever since been the capital of the chiefs of the State. It is the centre of a considerable local trade, many articles of luxury being manufactured in it. It contains a State workshop. The old palace is in the middle of the town, which is not unpicturesque, the bazars being wide and straight, though the side streets are narrow and crooked. The environs of the town are, however, beautifully laid out with gardens and shady roads, among which are the numerous public buildings and residences of the Mahārāja and his officials. Of the former, the Mohindar College, the Rājindar Victoria Diamond Jubilee Library, the Rājindar Hospital, the Bāradari or royal residence, the Moti Bāgh, or 'pearl garden,' and the Victoria Memorial Poorhouse deserve mention. The sanitation of the town is efficient; but owing to its low-lying situation it is subject to heavy floods, which occasionally do much damage to its buildings, and cause malarial fevers in the autumn months. A municipality has recently been established. The town contains the Sadr and Lady Dufferin Hospitals, and the Lady Curzon Training School for midwives and nurses, opened in 1906. The Victoria Girls' School was opened in the same year.

Pātkai.—A range of hills lying to the south of Lakhimpur District, Assam, between 26° 30′ and 27° 15′ N. and 95° 15′ and 96° 15′ E. The general height of the range is about 4,000 feet, but it contains summits nearly 7,000 feet in height. The hills are composed of Upper Tertiary rocks, and their sides are clothed with dense forest. The pass over the Pātkai is the recognized route between Burma and the Assam Valley, though, as it entails a long march through wild and hilly country, there is little intercourse between the two Provinces. It was by this route that the Ahoms entered the valley of the Brahmaputra in the thirteenth century; and it was used by the Burmese when they were summoned to Assam at the beginning of the nineteenth century to assist Chandra Kanta, one of the last of the Ahom Rājās. In 1837 Dr. Griffiths crossed the Pātkai into the Hukawng valley, and in 1896 a railway survey party traversed the range. The construction of a line from Ledo in Lakhimpur District over the Pātkai and down the Hukawng valley to Taungni station in the Mu valley was estimated to cost 383 lakhs for a total length of 284 miles. The line, if made, would be carried through the summit of the Pātkai in a tunnel 5,000 feet in length and situated 2,750 feet above the level of the sea. The rocks in that neighbourhood consist of an indurated sandstone. The hills are inhabited by Nāgā tribes. Those who live on the Hukawng side of the watershed are subject to Singpho chiefs. They are armed with *daos*, muskets, and cross-bows, and their villages are usually well situated for defence. An account of these people is annexed to the report of the railway survey party.

Patlūr.—'Crown' *tāluk* of the Atrāf-i-balda District, Hyderābād State, lying south of Bīdar District, with an area of 595 square miles including *jāgīrs*. The population in 1901 was 52,833, compared with 53,878 in 1891. It contains 138 villages, of which 23 are *jāgīr*, and Dhārūr (population, 1,949) is the head-quarters. The land revenue in 1901 was 1·6 lakhs.

Patna Division.—A Division of Bihār in Bengal, lying between 24° 17′ and 27° 31′ N. and 83° 19′ and 86° 44′ E. It is bounded on the east by the Bhāgalpur Division, and on the west by the United Provinces, and extends from Nepāl on the north to the Chotā Nāgpur plateau on the south. The head-quarters of the Commissioner, who is assisted by an Additional Commissioner, are at BANKIPORE. The Division includes seven Districts, with area, population, and revenue as shown below:—

District.	Area in square miles.	Population, 1901.	Land revenue and cesses, 1903-4, in thousands of rupees.
Patna	2,075	1,624,985	19,58
Gayā	4,712	2,059,933	19,54
Shāhābād	4,373	1,962,696	21,62
Sāran	2,674	2,409,509	16,22
Champāran	3,531	1,790,463	6,89
Muzaffarpur	3,035	2,754,790	13,64
Darbhangā	3,348	2,912,611	12,93
Total	23,748	15,514,987	1,10,42

NOTE.—In the *Census Report* of 1901 the area of Sāran was shown as 2,656 square miles, of Muzaffarpur as 3,004 square miles, and of Darbhangā as 3,335 square miles. The figures adopted above are taken from the recent Settlement Reports.

The population increased from 13,118,917 in 1872 to 15,061,493 in 1881 and to 15,811,604 in 1891, but in 1901 it had fallen to 15,514,987. This decrease was shared by all the Districts except Muzaffarpur and Darbhangā. In Champāran the decline is attributable to the unhealthiness of the District, which suffered greatly from malarial affections and severe epidemics of cholera. Elsewhere the decrease is mainly attributable to the direct and indirect losses caused by the plague epidemic, a very heavy mortality, the flight of the immigrant population, and, in some parts where the epidemic was raging at the time of the Census, the failure of the census staff to effect an exhaustive enumeration. Prior to 1901 the epidemic had been most virulent in Patna, whose population declined by 8·4 per cent. during the decade.

The average density is 653 persons per square mile, a high proportion compared with Bengal as a whole. The population exceeds that

of any other Division, and is, in fact, about the same as that of the whole of the Bombay Presidency excluding Sind, while it is nearly three times as numerous as that of Assam. In 1901 Hindus constituted 88·4 per cent. of the total and Musalmāns 11·5 per cent.; there were 7,350 Christians (of whom 3,146 were natives), and 999 Jains.

The Division is intersected from west to east by the Ganges. North of the river it is a flat alluvial formation, rising very gradually towards the foot of the Himālayas, and possessing many tracts of great natural fertility. On the other side of the river it contains a strip of alluvium along the bank of the Ganges, but farther south the soil changes, and the surface becomes more undulating and gradually rises till the Chotā Nāgpur plateau is reached. The north of the Division enjoys in ordinary years a comparatively copious rainfall increasing towards the north, but is peculiarly liable to failure of crops in seasons of deficient rain. In the south a large area is protected by the SON CANALS system, and elsewhere the undulating surface enables the people to construct small reservoirs from which to water their fields. The four North Ganges Districts have recently been surveyed, and a record-of-rights has been prepared. This tract is the main seat of the indigo industry in Bengal, and its out-turn in 1903-4 amounted to 907 tons, compared with 476 tons from the rest of the Province. The competition of synthetic indigo and the consequent fall in prices have struck a severe blow at the prosperity of the industry, and for some years it has been steadily on the decline. Experiments are being made with a view to increase the out-turn and to improve the quality of the dye, while several factories are now devoting their attention to other crops, and attempts are being made at Ottur in Muzaffarpur District and elsewhere to revive the old sugar industry.

The Division contains 35 towns and 34,169 villages. The largest towns are PATNA (population, 134,785), GAYĀ (71,288), DARBHANGĀ (66,244), ARRAH (46,170), CHĀPRA (45,901), MUZAFFARPUR (45,617), BIHĀR (45,063), DINAPORE (33,699 including the cantonment), BETTIAH (24,696), SASARĀM (23,644), and HĀJĪPUR (21,398). Owing to the prevalence of plague at the time of the Census (March, 1901), these figures do not in several cases represent the normal populations of the towns; a subsequent enumeration held in July showed the population of Patna city to be 153,739. Patna is, after Calcutta and its suburb Howrah, the largest town in Bengal, and is a very important commercial centre; a large amount of traffic also passes through REVELGANJ, Hājīpur, and MOKĀMEH, while the workshops of the Bengal and North-Western Railway are at SAMĀSTIPUR.

The Division contains the oldest towns in the Province; and Patna, Gayā, and Bihār have a very ancient history. Patna was the Pātaliputra of Greek times and, like Gayā, contains many interesting antiquities.

This neighbourhood was at one time a stronghold of Buddhism; and many Buddhist remains occur in Patna, Gayā, Champāran, and Muzaffarpur Districts, among the most important sites being Patna city and Buddh Gayā. Four pillars mark the route taken by Asoka through Muzaffarpur and Champāran on his way to what is now the Nepāl *tarai*. Of these, the pillar near Lauriyā Nandangarh is still almost perfect; another stands near Basārh, which is probably the site of the capital of the old kingdom of Vaisālī. Interesting remains of the Muhammadan period are found in the town of Bihār, in the city of Patna, and at Sasarām, Rohtāsgarh, Shergarh, and Maner. Buxar was the scene of the defeat in 1764 of Mīr Kāsim in the battle which resulted in the civil authority of Bengal, Bihār, and Orissa being conferred on the East India Company. Several places in the Division are associated with incidents in the Mutiny of 1857. After the outbreak of three regiments at Dinapore, Shāhābād, from which the native army was largely recruited, was for some time overrun with the rebels, and the story of the defence of Arrah is well-known. Gayā was traversed by several bands of mutineers, and on three occasions the jail was broken open and the prisoners released. At Sagauli in Champāran District Major Holmes was massacred by his troops.

Patna District.—District of the Patna Division, Bengal, lying between 24° 57′ and 25° 44′ N. and 84° 42′ and 86° 4′ E., with an area of 2,075 square miles. It is bounded on the north by the river Ganges, which divides it from Sāran, Muzaffarpur, and Darbhangā; on the south by Gayā; on the east by Monghyr; and on the west by Shāhābād.

Physical aspects.

With the exception of the Rājgir hills in the south, the whole District is quite flat. The land along the bank of the Ganges is slightly higher than that farther inland, and the line of drainage consequently runs from south-west to north-east. The Rājgir hills, which enter the District from Gayā, consist of two parallel ranges; they seldom exceed 1,000 feet in height, and are for the most part rocky and covered with low jungle. The principal river is the Ganges, which flows for 93 miles along the northern boundary. The Son forms the western boundary of the District for 41 miles, entering it near Mahābalipur and flowing in a northerly direction to its junction with the Ganges. A little above the junction it is bridged by the East Indian Railway at Koelwār, from which point the river divides into two streams with a fertile island in the middle. The Pūnpūn river, which rises in the south of Gayā District, flows through Patna in a north-easterly direction. At Naubatpur it approaches the Patna Canal, and from that point it turns to the east, and falls into the Ganges at Fatwā. Some 9 miles above this point it is joined by the Morhar. The Panchāna and the Phalgu,

though comparatively small streams, are of the greatest value for irrigation purposes; the whole of their water is diverted into artificial channels and reservoirs, and their main channels are mere dried-up beds for the greater part of the year. The Sakri is another river which fails to reach the Ganges owing to the demands made upon it for irrigation purposes, nearly all its water being carried away by two large irrigation channels constructed on its left bank, 12 miles below Bihār town.

The whole District is of alluvial origin except the Rājgir hills, which consist of submetamorphic or transition rocks.

The District contains no forests. The level country near the Ganges has in the rice-fields the usual weeds of such localities. Near villages there are often considerable groves of mango-trees and palmyras (*Borassus flabellifer*), some date-palms (*Phoenix sylvestris*), and numerous examples of the tamarind and other semi-spontaneous and more or less useful species. Farther from the river the country is more diversified; and sometimes a dry scrub jungle is to be met with, containing various shrubs of the order of *Euphorbiaceae*, the *palās* (*Butea frondosa*) and other leguminous trees, and various kinds of *Ficus*, *Schleichera*, *Wendlandia*, and *Gmelina*. The grasses that clothe the drier parts are generally of a coarse character.

Antelope are found near the Son river, and wild hog in the *diāras* or islands of the Ganges; bears and leopards occasionally visit the Rājgir hills, and wolves also are sometimes seen.

Owing to its distance from the sea, Patna has greater extremes of climate than the south and east of Bengal. The mean temperature varies from 60° in January to 88° in May. The highest average maximum is 101° in April. Owing to the dry westerly winds with increasing temperature in March and April, the humidity at that season is very low and averages 50 per cent. With the approach of the monsoon the air gradually becomes more charged with moisture, and the humidity remains steady at about 86 per cent. throughout July and August, falling to 71 per cent. in November. The annual rainfall averages 45 inches, of which 7 inches fall in June, 12·2 in July, 11·3 in August, and 6·9 in September. Floods are common, but they ordinarily do little damage and are seldom attended with loss of life. Heavy floods occurred in 1843, 1861, 1870, and 1879; of late years the principal floods were those of 1897 and 1901, when the Son and the Ganges were in flood at the same time.

History.

The District possesses great interest for both the historian and the archaeologist. It was comprised, with the country now included in the Districts of Gayā and Shāhābād, within the ancient kingdom of Magadha, whose capital was at RĀJGIR; and its general history is outlined in the articles on MAGADHA and

BIHĀR, in which Magadha was eventually merged. Its early history is intimately interwoven with that of PATNA CITY, which has been identified with Pātaliputra (the Palibothra of Megasthenes). It contains the town of Bihār, the early Muhammadan capital, from which the sub-province takes its name; and it was a famous seat of Buddhism, and many places in it were visited and described by the Chinese pilgrims, Fa Hian and Hiuen Tsiang.

In recent times two events of special interest to Englishmen stand prominently out and demand separate notice. The one is known as the Massacre of Patna (1763), and the other is connected with the Mutiny of 1857. The former occurrence, which may be said to have sealed the fate of Muhammadan rule in Bengal, was the result of a quarrel between Mīr Kāsim, at that time Nawāb, and the English authorities. The Nawāb, after much negotiation, had agreed to a convention which was also accepted by Mr. Vansittart, the Governor, that a transit duty of only 9 per cent. should be paid by Englishmen, which was far below the rate exacted from other traders. This convention, however, was repudiated by the Council at Calcutta; and Mīr Kāsim, in retaliation, resolved to abandon all duties whatever on the transit of goods, and to throw the trade of the country open to all alike—a measure still less acceptable to the Company's servants—and their relations with the Nawāb became more strained than ever. In April, 1763, a deputation, consisting of Messrs. Hay and Amyatt, was dispatched from Calcutta to Monghyr, where the Nawāb had taken up his residence; but it was now too late for negotiation. Numerous and fierce disputes had arisen between the *gumāshtas* (agents) of the English and the Muhammadan officers; and an occurrence which happened at Monghyr, while Messrs. Hay and Amyatt were there, hastened the rupture. Mīr Kāsim seized and detained some boat-loads of arms which were passing up the Ganges to Patna, on the ground that the arms were destined to be used against himself, whereupon Mr. Ellis, the chief of the factory at Patna, ordered his sepoys to occupy Patna city, which was done the following morning, June 25. In revenge the Nawāb sent a force in pursuit of Mr. Amyatt, who had been allowed to return to Calcutta, Mr. Hay having been detained as a hostage. Mr. Amyatt was overtaken and murdered near Cossimbazar. In the meantime the Company's sepoys, who had been plundering Patna city, were driven back to the factory, a large number of them being killed. The remainder, less than a sixth of the original force of 2,000 men, after being besieged for two days and nights, fled in their boats to the frontier of Oudh, where they ultimately laid down their arms. They were brought back to Patna, to which place had been conveyed Mr. Hay from Monghyr, the entire staff of the Cossimbazar factory, who had also been arrested at the first outbreak of hostilities, and

some other prisoners. As soon as regular warfare commenced, Mīr Kāsim's successes came to an end. He was defeated in two battles by Major Adams, at Giriā on August 2, and at Udhuā Nullah on September 5. These defeats roused the Nawāb to exasperation, and on September 9 he wrote to Major Adams: 'If you are resolved to proceed in this business, know for a certainty that I will cut off the heads of Mr. Ellis and the rest of your chiefs, and send them to you.' This threat he carried out on the evening of October 6 with the help of a renegade named Walter Reinhardt, who was known to the Muhammadans as Sumrū. About 60 Englishmen were murdered, their bodies being thrown into a well in the compound of the house in which they were confined, and about 150 more met their death in other parts of Bengal. This massacre was followed by an active campaign in which the English were everywhere successful; and finally in August, 1765, after the decisive battle of Buxar, the administration of Bihār, Bengal, and Orissa was made over to the East India Company. An English Resident was appointed at Patna; but the administration of Bihār, which then comprised only Patna and Gayā Districts—Patna city itself being regarded as a separate charge—remained in the hands of natives. In 1769 English Supervisors were appointed, and in 1770 a Council for Bihār was established at Patna. In 1774 the Supervisors, who had meanwhile been designated Collectors, and the Council for Bihār were abolished, and a Provincial Council was established at Patna. This lasted till 1781, when Bihār was made a District under a Collector and a Judge-Magistrate. In 1865 it was divided into Patna and Gayā Districts, the Bihār subdivision being included in the former, and nineteen estates were transferred from Patna to Tirhut in 1869, thus constituting the District as it now exists.

The other important event in the modern history of the District is the mutiny of the sepoys stationed at Dinapore, the military station attached to Patna city. The three sepoy regiments at this place in 1857 were the 7th, 8th, and 40th Native Infantry. General Lloyd, who commanded the station, wrote expressing his confidence in their loyalty, and they were accordingly not disarmed; but as the excitement increased throughout Bihār, and stronger measures seemed in the opinion of the Commissioner, Mr. Tayler, to be necessary, the general, while still apparently relying on the trustworthiness of the men, made a half-hearted attempt at disarming the sepoys. The result was that the three regiments revolted and went off in a body, taking with them their arms and accoutrements, but not their uniforms. Some took to the Ganges, where their boats were fired into and run down by a steamer which was present, and their occupants shot or drowned. But the majority were wiser, and hastened to the river Son, crossing which they found themselves safe in Shāhābād. The story of what took place

in Shāhābād will be found in the article on ARRAH. When the news reached Bankipore that the rebels, headed by Kunwar (or Kuar) Singh, had surrounded the Europeans at Arrah, an ill-fated attempt was made to rescue them. A steamer, which was sent up the river on July 27, stuck on a sandbank. Another steamer was started on the 29th; but the expedition was grossly mismanaged. The troops were landed at 7 p.m., and fell into an ambuscade about midnight. When the morning dawned, a disastrous retreat had to be commenced. Out of the 400 men who had left Dinapore fully half were left behind; and of the survivors only about 50 returned unwounded. Two volunteers, Mr. McDonell and Mr. Ross Mangles, both of the Civil Service, besides doing excellent service on the march, performed acts of conspicuous daring. The former, though wounded, was one of the last men to enter the boats, and subsequently stepped out of shelter, climbed on the roof of the boat, and released the rudder, which had been lashed by the insurgents, amidst a storm of bullets from the contiguous bank. Mr. Ross Mangles's conduct was equally heroic. He carried a wounded man for 6 miles till he reached the stream, and then swam with his helpless burden to a boat, in which he deposited him in safety. Both these gentlemen afterwards received the Victoria Cross as a reward for their heroism.

The chief places of archaeological interest are RĀJGIR, MANER, PATNA CITY, BIHĀR, and GIRIAK. The village of BARAGAON has been identified as the site of the famous Nālanda monastery, and with the neighbouring village of Begampur contains masses of ruins; at Tetrāwān and Jagdīspur are colossal statues of Buddha, and at Telharā and Islāmpur the remains of Buddhist monasteries. Many other Buddhist remains are of more or less interest.

Population.

The population increased from 1,559,517 in 1872 to 1,756,196 in 1881 and to 1,773,410 in 1891, but dropped to 1,624,985 in 1901. The apparent increase between 1872 and 1881 was largely owing to defective enumeration in the former year, while the decrease recorded in 1901 is due mainly to the direct and indirect results of plague, which first broke out in January, 1900, and was raging in the District at the time when the Census was taken, causing many people to leave their homes and greatly increasing the difficulties in the way of the census staff. The loss of population was greatest in the thickly populated urban and semi-urban country along the banks of the Ganges, where the plague epidemic was most virulent. The south of the District, which suffered least from plague, almost held its ground. Plague has since become practically an annual visitation and causes heavy mortality. The principal statistics of the Census of 1901 are shown in the table on the next page.

The chief towns are PATNA CITY, BIHĀR, DINAPORE, MOKAMEH, and

BĀRH. The head-quarters are at BANKIPORE, a suburb of Patna. The density is highest along the Ganges and in the Bihār *thāna*, and least in the Bikram and Masaurhibazurg *thānas* in the south-west and in the Rājgir hills. There is a considerable ebb and flow of population across the boundary line which divides Patna from the adjoining Districts, and, in addition to this, no less than one-twentieth of its inhabitants have emigrated to more distant places. They are especially numerous in Calcutta, where more than 30,000 natives of this District were enumerated in 1901; these were for the most part only temporary absentees. The vernacular of the District is the Magahī dialect of Bihārī Hindī. Hindus number 1,435,637, or 88·3 per cent. of the total population, and Musalmāns 186,411, or 11·5 per cent.

Subdivision.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Bankipore	334	2	975	341,054	1,021	− 15·6	27,778
Dinapore	424	2	791	315,697	745	− 10·4	21,155
Bārh	526	2	1,075	365,327	695	− 10·5	22,509
Bihār	791	1	2,111	602,907	762	− 0·9	32,833
District total	2,075	7	4,952	1,624,985	783	− 8·4	104,275

The most numerous Hindu castes are Ahīrs and Goālās (220,000), Kurmīs (181,000), Bābhans (114,000), Dosādhs (96,000), Kāhārs (85,000), Koiris (80,000), Rājputs (64,000), Chamārs (56,000), and Telis (52,000). Agriculture supports 62·3 per cent. of the population, industries 17·1 per cent., commerce 1·2 per cent., and professions 2·4 per cent.

Christians number 2,562, of whom only 139 are natives. The principal missions are the London Baptist Missionary Society, the London Baptist Zanāna Mission, the Zanāna Bible and Medical Mission, and the Roman Catholic Mission. The Zanāna Bible and Medical Mission possesses a well-equipped hospital in Patna city; the Roman Catholic Mission has a boys' school at Kurjī, and a girls' boarding-school and European and native orphanages at Bankipore; while each of the other missions, in addition to evangelistic work, maintains some schools.

Agriculture.

The agricultural conditions are fairly uniform throughout; but the Bihār subdivision is for the most part lower than the rest of the District and is better adapted for the cultivation of rice, while the Bārh subdivision is more suited to *rabi* crops. The most naturally productive soil is the *diāra* land along the bank of the Ganges; but the most valuable of all is the fertile high

land in the vicinity of villages, where well-irrigation can be practised, and vegetables, poppy, and other profitable crops are grown.

The chief agricultural statistics for 1903–4 are shown below, areas being in square miles :—

Subdivision.	Total.	Cultivated.	Irrigated from canals.	Cultivable waste.
Bankipore . . .	334	246	10	12
Dinapore . . .	424	311	60	15
Bārh	526	388	...	18
Bihār	791	584	...	27
Total	2,075	1,529	70	72

It is estimated that 10 per cent. of the cultivated area is twice cropped. Rice is the staple food-crop, covering 338 square miles. It is sown in June and reaped in December; in low-lying marsh lands sowing may commence as early as April. The greater portion of it is transplanted, but on inferior lands it is sown broadcast. Of other food-crops, wheat (202 square miles), barley (127 square miles), *jowār* (20 square miles), *maruā* (97 square miles), maize (189 square miles), gram (149 square miles) and other pulses (175 square miles) are widely grown. Maize forms the principal food of the lower classes, except in the Bihār subdivision, where *maruā* takes its place. Maize and *rahar* are frequently sown together, the maize being harvested in September and the *rahar* in March. Oilseeds are grown on 74 square miles, while of special crops the most important is poppy (27 square miles). The poppy cultivated is exclusively the white variety (*Papaver somniferum*), and the crop, which requires great attention, has to be grown on land which can be highly manured and easily irrigated. Potatoes are also grown extensively and are exported in large quantities, the Patna potato having acquired more than a local reputation. Little use has been made of the provisions of the Land Improvement and Agriculturists' Loans Acts; Rs. 2,800 was advanced under the former Act during the scarcity of 1897.

In addition to the common country cattle, two varieties are bred: one a cross between the Hānsi and the local stocks, and the other with a strong English strain known as the Bankipore breed. The former class are large massive animals, and the bullocks do well for carts or ploughs, though the cows are not very good milkers. The Bankipore breed is the residue of an English stock imported some fifty years ago. The cows are excellent milkers, but the bullocks are not heavy or strong enough for draught purposes. The breed has fallen off greatly of late years through in-breeding and the want of new blood, but the District board has recently imported two Jersey bulls from Australia. Bullocks from Tirhut are largely used for ploughing. Pasture grounds

are very scarce, and the cattle are usually fed with chopped straw or maize stalks with *bhūsa* (chaff) and pulse, or with linseed cake when available. Persons wishing to buy horses or cattle usually go to the Sonpur fair in Sāran or the Barahpur fair in Shāhābād, a fair at Bihtā with an attendance of 5,000 being the only cattle fair held in Patna District. Of other fairs, that held at Rājgir is by far the most important.

The whole District depends largely on irrigation. In the headquarters and Dinapore subdivisions the Patna Canal, a branch of the SON CANALS system, irrigates an area of 70 square miles, and supplies most of the needs of the people. The length of the main canal (in this District) is $42\frac{1}{4}$ miles, that of the parallel channels 24 miles, and that of the distributaries 161 miles. In the Bihār subdivision an extensive system of private irrigation works fed from the local rivers is maintained by the *zamīndārs*. Each *zamīndār* has vested rights in a certain quantity of river water, which he carefully stores by means of embankments and distributes through reservoirs and channels to his ryots. It is estimated that the area thus irrigated in this subdivision is about 437 square miles, out of a total cultivated area of 584 square miles. The system works admirably as long as the rivers which feed the irrigation works bring down their normal quantity of water; but a serious drought, both locally and in the hills of Chotā Nāgpur where these rivers rise, means an almost complete failure of crops. The absence of a proper system of managing the head of supply has caused many old streams to silt up and rendered useless some of the distributing channels. Well-irrigation is universally used for vegetable and poppy cultivation, and occasionally for irrigating the *rabi* crops; one well will irrigate about 2 acres of land. Irrigation from tanks is seldom practised.

Trade and communications.

Carpets, brocades, embroidery, pottery, brass-work, toys, fireworks, lac ornaments, gold and silver wire and leaf, glass-ware, boots and shoes, and cabinets are made in Patna city; carpets in Sultānganj, Pīrbahor, and Chauk; and embroidery and brocade work in the Chauk and Khwāja Kalan *thānas*. Durable furniture and cabinets are made at Dinapore. The manufactures of the Bārh subdivision are jessamine oil (*chameli*), coarse cloth, and brass and bell-metal utensils; and of the Bihār subdivision soap, silk fabrics, tubes for *hukkas*, muslin, cotton cloth, and brass and iron-ware. Apart from hand industries, certain articles, such as stools and tables, are made in the workshops of the Bihār School of Engineering, and chests for packing opium in the saw-mills of the Patna Opium Factory. Opium is manufactured by Government at a factory in Patna city. Some iron foundries are at work in Bankipore and Dinapore, and an ice and aerated waters factory has been started at Bankipore.

The principal imports are rice, paddy, salt, coal, kerosene oil, European cotton piece-goods, and gunny bags; and the principal exports are wheat, linseed, pulses, mustard seed, hides, sugar, tobacco, and opium. A large amount of trade is carried by the railway, but the bulk of it is still transported by river. Patna city, with its 7 or 8 miles of river frontage in the rains and 4 miles in the dry season, is the great centre for all the river-borne trade. It is by far the largest mart in the District, and its commanding position for both rail and river traffic makes it one of the principal commercial centres of Bengal. Goods received by rail are there transferred to country boats, bullock-carts, &c., to be distributed throughout the neighbourhood, which in return sends its produce to be railed to Calcutta and elsewhere. The river trade is carried by country boats and river steamers between Patna and Calcutta and other places on the Ganges and Nadiā Rivers, and by country boats between Patna and Nepāl. Trade has declined very greatly of late years, largely owing to the reduced freight charged by the railways on goods booked direct to Calcutta. Other important markets are DINAPORE, BIHĀR, BĀRH, MOKAMEH, Islāmpur, FATWĀ, and HILSĀ. The principal trading castes are Telis, Baniyās, and Agarwāls. The transport by river is mostly in the hands of Musalmāns, Tiyars, and Mallāhs, while the road traffic is almost monopolized by Goālās and Kurmīs.

The main line of the East Indian Railway runs through the north of the District for 84 miles from east to west, entering at Dumrā station and leaving at the Son bridge. The chief stations are at Mokameh, Bārh, Bakhtiyārpur, Patna, Bankipore, and Dinapore. From Bankipore one branch line runs to Gayā, and another to Gīgha Ghāt in connexion with the Bengal and North-Western Railway ferry-steamer which crosses the Ganges to the terminus of that railway at Sonpur. A third branch line from Mokameh to Mokameh Ghāt establishes another connexion with the Bengal and North-Western Railway. A light railway (18 miles in length) connects Bakhtiyārpur and Bihār. Exclusive of 673 miles of village tracks, the District contains 614 miles of road. Of these 132 miles are metalled; 10 miles are maintained from Provincial and 17 from municipal funds, and the remainder by the District board. The chief road crosses the north of the District through Bārh, Patna city, Bankipore, and Dinapore, leading from Monghyr on the east to Arrah on the west. Other important roads are those from Bankipore to Palāmau, from Bankipore to Gayā, from Fatwā to Gayā, and from Bakhtiyārpur through Bihār to Hazāribāgh.

The Ganges and the Son are the only rivers navigable throughout the year. The former is navigable by steamers, and daily services run between Dīgha and Goalundo, Dīgha and Buxar, and Dīgha and Barhaj, with an extended run every fourth day to Ajodhyā

on the Gogra. Paddle steamers ply from Dīgha to Goalundo, but above Dīgha there are shallows and only stern-wheelers can be used. The passenger traffic consists principally of labourers going to Eastern Bengal in search of work, while the goods traffic is mostly in grain, sugar and its products, and piece-goods. The Patna Canal is navigable, and a large number of bamboos are brought down by it to Patna. A bi-weekly service runs on it between Khagaul (Dinapore railway station) and Mahābalipur in the head-quarters subdivision via Bikram. Several ferries cross the Ganges, the most important being those from Bankipore and Patna.

The District is not ordinarily liable to famine, and even in 1896–7 only local scarcity in the Bārh and Bihār subdivisions was felt. Test works were opened, but were closed almost at once. The total amount spent on relief was only Rs. 31,000.

Administration.

The District is divided into five subdivisions: BANKIPORE, BIHĀR, BĀRH, PATNA CITY, and DINAPORE. The staff subordinate to the District Magistrate-Collector at head-quarters consists of a Joint-Magistrate, an Assistant Magistrate, and seven Deputy-Magistrate-Collectors. The other subdivisions are each in charge of a European officer—in the case of Bihār a Deputy-Magistrate-Collector, and in the case of Bārh, Patna city, and Dinapore a member of the Indian Civil Service. The subdivisional officers of Bārh and Bihār are each assisted by a Sub-Deputy-Magistrate-Collector.

The civil courts for the disposal of judicial work are those of the District Judge, who is also the Sessions Judge, three Sub-Judges and three Munsifs at Patna and one Munsif at Bihār, while the Cantonment Magistrate at Dinapore is vested with the powers of a Small Cause Court Judge. Criminal courts include those of the Sessions Judge, District Magistrate, and the above-mentioned Joint, Assistant, and Deputy-Magistrates. The majority of the cases which come before the courts are of a petty nature. Both burglary and robbery are, however, more common than in the other Districts of the Division. Riots are also numerous; they are generally connected with land disputes or arise out of cattle trespass or questions of irrigation.

Under the Muhammadans the District formed part of *Sūbah* Bihār. After it passed under British rule the principal feature of its land revenue history has been the remarkable extent to which the subdivision of estates has gone on. In 1790 there were 1,230 separate estates on the roll held by 1,280 registered proprietors and coparceners, the total land revenue in that year amounting to 4·33 lakhs. In 1865 the Bihār subdivision with 796 estates was added to the District, and four years later 19 estates were transferred from Patna

to Tirhut. This brought the District practically to its present dimensions. In 1870–1 the number of estates was 6,075, while the number of registered proprietors had increased to 37,500 and the revenue to 15·08 lakhs. In 1903–4 the number of estates had still farther increased to 12,923 and of proprietors to 107,381, while the current land revenue demand was 14·97 lakhs. This subdivision of estates has added greatly to the difficulty of collecting the revenue and of keeping the accounts connected therewith. The average area held by each ryot, as shown in the latest settlement papers of certain Government estates, varies considerably in different parts of the District, ranging from 1·47 acres in the Bihār to 4·76 acres in the Bārh subdivision for ordinary holdings, and from 7·30 acres in Dinapore to 13·04 acres in the head-quarters subdivision for the *diāras* or river islands. The rents of homestead land are between Rs. 6 and Rs. 24 per acre. The average rate for clayey soils is about Rs. 5, while land in which sand predominates lets for about half that amount. The best *diāra* lands fetch as much as Rs. 30 per acre, and the worst, where the soil consists chiefly of sand, as little as 12 annas. The rent of this class of land is higher than it would otherwise be, owing to the fact that in many cases the tenant has no occupancy right. About two-thirds of the Bihār subdivision is held under the *bhaoli* or produce-rent system. Three forms of this system prevail: namely, *dānābandi*, where the value of the produce is estimated and the equivalent of the landlord's share paid in cash or rice; *batai*, where the actual produce is divided; and a fixed payment of rice and *dāl*. The last is comparatively rare. In the case of *dānābandi* and *batai* the shares are supposed to be equal, but actually the landlord gets more than half. A common proportion is known as 'nine-seven,' i.e. out of every 16 seers the landlord takes nine and the tenant seven. The ryot always gets the straw and other by-products.

The following table shows the collections of land revenue and of total revenue (principal heads only) in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	14,83	14,76	14,91	15,07
Total revenue . .	27,73	28,03	31,85	32,68

Outside the municipalities of PATNA, BĀRH, BIHĀR, and DINAPORE, local affairs are managed by the District board, with subordinate local boards in each subdivision. The District board has guaranteed 4 per cent. interest on the capital (8 lakhs) of the Bakhtiyārpur-Bihār light railway, but it is entitled to receive half of any profits in excess of that amount. In 1903–4 its income was Rs. 2,86,000,

of which Rs. 2,09,000 was derived from rates; and the expenditure was Rs. 2,47,000, including Rs. 1,46,000 spent on public works and Rs. 44,000 on education.

The District contains 28 police stations and 31 outposts. The force subordinate to the District Superintendent consisted in 1903 of 6 inspectors, 49 sub-inspectors, 88 head constables, and 1,195 constables; there was also a rural police force of 176 *daffadārs* and 3,240 *chaukīdārs*. The District jail at Bankipore has accommodation for 453 prisoners, and subsidiary jails at Bārh and Bihār for 28 and 25 respectively.

Of the population 6·4 per cent. (12·3 males and 0·6 females) could read and write in 1901. The total number of pupils under instruction increased from about 27,000 in 1883–4 to 43,941 in 1890–1; it fell to 38,162 in 1900–1, but rose again in 1903–4, when 41,533 boys and 1,689 girls were at school being respectively 34·4 and 1·3 per cent. of the children of school-going age. The number of educational institutions, public and private, in that year was 1,829, including two Arts colleges, 25 secondary, 1,255 primary, and 547 special schools. The expenditure on education was 3·51 lakhs, of which 1·45 lakhs was met from Provincial funds, Rs. 44,000 from District funds, Rs. 7,000 from municipal funds, and 1·16 lakhs from fees. The chief educational institutions are the Patna College, the Patna Medical College, and the Bihār School of Engineering at Patna, the Bihār National College and the female high school at Bankipore, and St. Michael's College for Europeans and Eurasians at Kurjī, situated half-way between Bankipore and Dinapore. There is a fine public library at Bankipore.

In 1903 the District contained altogether 15 dispensaries, of which 5 had accommodation for 163 in-patients. The cases of 142,000 out-patients and 2,500 in-patients were treated, and 12,000 operations were performed. The expenditure was Rs. 39,000, of which Rs. 3,000 was met from Government contributions, Rs. 19,000 from Local and Rs. 14,000 from municipal funds, and Rs. 3,000 from subscriptions. A lunatic asylum at Patna has accommodation for 206 males and 56 females.

Vaccination is compulsory only in municipal areas. During 1903–4 the number of persons successfully vaccinated was 35,000, or 21·7 per 1,000 of the population.

[M. Martin, *Eastern India* (1838); J. R. Hand, *Early English Administration of Bihār* (Calcutta, 1894); and Sir W. W. Hunter, *Statistical Account of Bengal*, vol. xi (1877).]

Patna City (or Azīmābād).—Chief city of Patna District, Bengal, situated in 25° 37′ N. and 85° 10′ E., on the right bank of the Ganges a few miles below its junction with the Son. Included within the

municipal limits is Bankipore, the administrative head-quarters of Patna District and Patna Division. The city is situated on the East Indian Railway 332 miles from Calcutta; and though its prosperity has somewhat diminished of late years, it still possesses an important trade, its commanding position for both rail and river traffic making it one of the principal commercial centres of Bengal, and, after Calcutta, the largest town in the Province. Buchanan-Hamilton estimated the population at 312,000; but his calculation referred to an area of 20 square miles, whereas the city, as now defined, extends over only 9 square miles. The population returned in 1872 was 158,900; but the accuracy of the enumeration was doubted, and it was thought that the real number of inhabitants was considerably greater. It is thus probable that the growth indicated by the Census of 1881, which showed a population of 170,654, was fictitious. There was a falling off of 5,462 persons between 1881 and 1891, while the Census of 1901 gave a population of only 134,785, which represents a further decrease of more than 18 per cent. This was due mainly to the plague, which was raging at the time of the Census and not only killed a great number but drove many more away. A second enumeration taken five months later disclosed a population of 153,739. The decrease on the figures of 1891, which still amounted to 7 per cent., may be ascribed, in addition to the actual loss by deaths from plague, to a declining prosperity due to the gradual decay of the river-borne trade. The population at the regular Census of 1901 included 99,381 Hindus, 34,622 Musalmāns, and 683 Christians.

Patna has a very ancient history. It is to be identified with the Pātaliputra of ancient India, the Palibothra of the Greeks, and the Kusumapura of the early Gupta emperors. Megasthenes describes the city as situated on the south bank of the Ganges at the confluence of another large river, *Erannoboas* (the Greek form of *Hiranya-Vāhu*) or Son, which formerly joined the Ganges immediately below the modern city of Patna. The tradition of this junction still lingers among the villagers to the south-west of Patna, where there is an old channel called the Marā ('dead') Son.

Regarding the origin of the city various legends exist. The most popular ascribes it to a prince Putraka, who created it with a stroke of his magic staff and named it in honour of his wife the princess Pātali. This story is found in the *Kathā Sarit Sāgar* and in Hiuen Tsiang's travels. Diodorus attributes the foundation of Palibothra to Herakles, by whom perhaps he may mean Balarām, the brother of Krishna. According to the Vāyu Purāna and the Sutapitaka, the city of Kusumapura or Pātaliputra was founded by the Sisunāga king Udaya, who ruled in Magadha towards the end of the fifth century B.C.; but the Buddhist accounts place its origin in the reign

of Udāya's grandfather, Ajātasatru. When Buddha crossed the Ganges on his last journey from Rājagriha to Vaisālī, the two ministers of Ajātasatru, king of Magadha, were engaged in building a fort at the village of Pātali as a check upon the ravages of the people of Vrīji, and he predicted that the fort would become a great city. The Nandas who overthrew the Sisunāgas removed the capital of Magadha to Pātaliputra from Rājagriha, the modern Rājgir, in the south-east of Patna District. Under Chandragupta, the Greek Sandrokottos, who established the Maurya dynasty in 321 B.C., Pātaliputra became the capital of Northern India. It was during the reign of this king that in 305 B.C., or a little later, Megasthenes, whose account of it has been preserved by Arrian, visited the city. He says that Palibothra, which he describes as the capital city of India, is distant from the Indus 10,000 stadia, i.e. 1,149 miles, or only 6 miles in excess of the actual distance. He adds that the length of the city was 80, and the breadth 15 stadia; that it was surrounded by a ditch 30 cubits deep; and that the walls were adorned with 570 towers and 64 gates. According to this account, the circumference of the city would be 190 stadia or 24 miles. Strabo, Pliny, and Arrian call the people Prasii, which has been variously interpreted as 'eastern' (*prachya*) people, or the men of Parāsa, a name applied to Magadha, derived from the *palās*-tree (*Butea frondosa*).

Asoka ascended the throne in 272 B.C., and was crowned at Pātaliputra in 269 B.C. During his reign of forty years he is said to have changed the outward appearance of Pātaliputra. He replaced or supplemented the wooden walls by masonry ramparts, and filled his capital with palaces, monasteries, and monuments, the sites of which have not, as was once thought, been washed away by the river, but still remain to be properly excavated and identified by archaeologists. Dr. Waddell has already shown that Bhiknapahāri, an artificial hill of brick débris over 40 feet high and about a mile in circuit, now crowned by the residence of one of the Nawābs of Patna, is identical with the hermitage hill built by Asoka for his brother Mahendra; a representation of the original is still kept at the north-east base of the hill, and is worshipped as the Bhikna Kunwar. The site of Asoka's new palace Dr. Waddell places at Sandalpur. South of this, near the railway in Buland Bāgh, is a curious big flat stone, to which the marvellous story still clings that it cannot be taken away but always returns to its place. This, in Dr. Waddell's opinion, is the actual stone bearing the footprint of Buddha which was seen and described by the Chinese pilgrims, Fa Hian and Hiuen Tsiang. Fragments of a polished column, the outline of monastic cells, carved stones, and other remains point to Kumrāhar as the site of the old palace. In the adjacent hamlet of Nayātala is a sculptured pillar in highly polished hard sandstone of a pair of Mātris,

or 'divine mothers,' in the archaic style seen in the Bhārhut sculptures. In the land to the south, which is still called Asobhuk or 'Asoka's plot,' are situated brick ruins known as Chotāpahāri and Barapahāri (probably the hermitage hill of Upa Gupta who converted Asoka), while in the Pānchpahāri Dr. Waddell recognizes the five relic *stūpas* of exceptional grandeur which Asoka is said to have built. According to tradition, the third Buddhist council at Pātaliputra was held in the seventeenth year of Asoka's reign. With the death of that monarch in 231 B.C. the city disappears from history for 530 years, during which period the first empire of Northern India was destroyed by the Scythians and Andhras. But in A.D. 319 the city, now under the name of Kusumapura, witnessed the birth of a second empire, that of the Gupta kings. Chandra Gupta I married a Lichchavi princess of Pātaliputra. The date of his coronation, March 8, A.D. 319, marks the beginning of a new era in Indian history. Though Kusumapura is undoubtedly identical with Pātaliputra or Patna, yet of this second line of emperors not a single trace remains except a broken pillar which stands among some Muhammadan graves near the *dargāh*. Samudra Gupta, the son and successor of Chandra Gupta I, greatly enlarged the empire and removed the capital from Pātaliputra or Kusumapura westwards, but Pātaliputra was still a sacred place for the Buddhists. About 406, during the reign of Chandra Gupta II, Fa Hian, after visiting Upper India, arrived at Pātaliputra, of which he gives a short description, and resided there for three years while learning to read the Sanskrit books and to converse in that language.

The next description of Patna is supplied by Hiuen Tsiang, who entered the city after his return from Nepāl, in 637, more than a hundred years after the fall of the Gupta empire. At that time Magadha was subject to Harshavardhana, the great king of Kanauj. Hiuen Tsiang informs us that the old city, called originally Kusumapura, had been deserted for a long time and was in ruins. He gives the circumference at 70 *li*, or $11\frac{2}{3}$ miles, exclusive of the new town of Pātaliputra.

Little is known of the mediaeval history of Patna. In the early years of Muhammadan rule the governor of the province resided at the city of Bihār. During Sher Shāh's revolt Patna became an independent capital, but it was reduced to subjection by Akbar. Aurangzeb made his grandson Azīm governor, and the city thus acquired the name of Azīmābād, which is still in use among Muhammadans. The two important events in the modern history of Patna city—the massacre of 1763, and the mutiny of the troops at Dinapore cantonments in 1857—have been described in the account of PATNA DISTRICT. The old walled city of Patna extended about $1\frac{1}{2}$ miles from east to west and three-quarters of a mile from north to south. It is to this day very

closely built, mainly with mud houses, but the fortifications which surrounded the city have long since disappeared.

The city was constituted a municipality in 1864. The municipal limits include the suburb of Bankipore on the west. The income during the decade ending 1901–2 averaged 2·18 lakhs, and the expenditure 1·91 lakhs. In 1903–4 the income was 1·93 lakhs, including Rs. 83,000 from a tax on houses and lands, Rs. 21,000 from a conservancy rate, Rs. 16,000 from tolls, Rs. 13,000 from a tax on vehicles, and Rs. 35,000 as grants. The incidence of taxation was R. 0–14–5 per head of population. In the same year the expenditure amounted to 1·74 lakhs, the chief items being Rs. 5,000 spent on lighting, Rs. 10,000 on drainage, Rs. 48,000 on conservancy, Rs. 20,000 on medical relief, Rs. 7,000 on a new hospital building, Rs. 31,000 on roads, and Rs. 6,000 on education. A drainage scheme was carried out between 1893 and 1895 at a cost of 2·68 lakhs, but was defective owing to its being unaccompanied by any flushing scheme. Two complementary schemes were carried out in 1894 and 1900, by which $4\frac{1}{2}$ square miles of the total area are now flushed.

For administrative purposes the city, excluding Bankipore but including a few outlying villages known as the rural area of the City subdivision, has been constituted a subdivision under a City Magistrate, who holds his court at Gulzarbāgh in the heart of the city. The courts and jail are situated at BANKIPORE. Patna is the head-quarters of the Commissioner and Additional Commissioner, the Bihār Opium Agent, a Deputy-Inspector-General of police, a Deputy-Sanitary Commissioner, and the Executive Engineer of the Eastern Son division. The Patna College is a fine brick building at the west end of the city. Originally built by a native as a private residence, it was purchased by Government and converted into law courts. In 1857 the courts were removed to the present buildings at Bankipore; and in 1862 the college was established here. It possesses a chemical laboratory, and a law department and collegiate school are also attached to it. Close by is the Medical College, in front of which a new hospital has been erected. In this neighbourhood also stands the Oriental Library, founded by Maulvi Khuda Bakhsh Khān Bahādur, C.I.E., the present librarian, who has collected a number of valuable Persian and Arabic manuscripts. This library is subsidized by the Bengal Government, by the Nizām of Hyderābād, and by private subscriptions. Farther east at Afzalpur, on the ground formerly occupied by the Dutch factory, have been erected some fine buildings for the Bihār School of Engineering, which was opened in August, 1900, out of funds originally collected to commemorate the visit of the Prince of Wales to Patna in 1876. It has a good workshop for practical work, and the course of studies is the same as that of the apprentice department of the Civil

Engineering College at Sibpur. About 3 miles farther east, in the quarter called Gulzarbāgh, the Government manufacture of opium is carried on. Patna is one of the two places in British India where opium is manufactured by Government. The opium is made up into cakes, weighing about $3\frac{1}{2}$ lb. and containing about 3 lb. of standard opium. These are packed in chests (40 in each) and sent to Calcutta, whence most of them are exported to China. The opium buildings are on the old river bank, and are separated from the city by a high brick wall. Beyond Gulzarbāgh lies the city proper. The western gate is, according to its inscription, 5 miles from the *golā* at Bankipore and 12 miles from Dinapore. In the southern quarter called Sādikpur, a market has been laid out on the ground formerly occupied by the Wahhābi rebels. Nearly opposite to the Roman Catholic Church is the grave where the bodies of Mīr Kāsim's victims were ultimately deposited. It is covered by a pillar, built partly of stone and partly of brick, with an inlaid tablet and inscription. The chief Muhammadan place of worship is the monument of Shāh Arzāni, who died here in 1623, and whose shrine is frequented by both Muhammadans and Hindus. An annual fair is held on the spot in the month of Zikad, lasting for three days and attracting about 5,000 votaries. Adjacent to the tomb is the Karbala, where 100,000 people attend during the Muharram festival. Close by is a tank dug by the saint, where once a year crowds of people assemble, and many of them bathe. The mosque of Sher Shāh is probably the oldest building in Patna and the *madrasa* of Saif Khān the handsomest.

[L. A. Waddell, *Pātaliputra* (Calcutta, 1892), and *Report on the Excavations at Pātaliputra* (Calcutta, 1903).]

Patnā State.—Feudatory State of Bengal, lying between 20° 9′ and 21° 4′ N. and 82° 41′ and 83° 40′ E., with an area of 2,399 square miles. Up to 1905 the State was included in the Central Provinces. It lies in the valley of the Mahānadī, bounded on the north by Sambalpur, on the west by Raipur District, on the south by the Kālāhandī State, and on the east by the Baud State. The head-quarters are at Bolāngir, a village with 3,706 inhabitants (1901), 75 miles from Sambalpur by road. The State consists of an undulating plain, broken by numerous isolated peaks or small ranges, while a more continuous chain of hills runs along the north-western border. The northern and southern portions are open and well cultivated, and are divided by a belt of hilly country covered with dense forest which traverses the centre. The Tel river divides Patnā from Kālāhandī on the south, and the Ong from Sambalpur and Sonpur on the north. The Suktel and Bārābhailat traverse the centre of the State.

The Mahārājās of Patnā formerly dominated a large extent of territory to the east of the Ratanpur kingdom, and were the head

of a cluster of States known as the Athāra Garhjāt or 'eighteen forts.' The present rulers are Chauhān Rājputs, and claim for their family an antiquity of 600 years in Patnā, with a pedigree of twenty-eight generations. According to their traditions, their ancestor was a Rājput prince who lived near Mainpurī and was expelled from his territories by the Muhammadans. He came with his family to Patnā, where he was killed in battle; but his wife, who was pregnant, was sheltered by a Binjhāl, in whose hut she brought forth a son. At this time Patnā was divided among eight chiefs called the Ath Mālik, who took it in turn to reign for one day each over the whole territory. The Rājput boy Rāmai Deo, on growing up, killed all the chiefs and constituted himself sole ruler. In succeeding reigns the family extended their influence over surrounding territories, including the greater part of what is now Sambalpur District and the adjoining States, the chiefs of this area being made tributary. Chandarpur was conquered from the rulers of Ratanpur. The twelfth Rājā, Narsingh Deo, ceded to his brother Balrām Deo such portions of his territories as lay north of the river Ong. The latter founded a new State (Sambalpur), which very soon afterwards by acquisition of territory in every direction became the most powerful of all the Garhjāt cluster, while from the same time the importance of Patnā commenced to decline. In the eighteenth century, when the Marāthās conquered Sambalpur, Patnā had become a dependency of that State, and was also made tributary; and its subsequent history is that of Sambalpur. It was made a Feudatory State in 1865. In 1869 the tyranny of Mahārājā Sūr Pratāp Deo and of his brother Lāl Bishnāth Singh caused a rising among the Khonds of Patnā. They were speedily reduced, but not until Lāl Bishnāth Singh and his followers had committed many atrocities in cold blood. An inquiry into the causes of the outbreak led to the deposition of the chief, and the assumption of the management of the State by the British Government in 1871. The Mahārājā died in 1878, and was succeeded by his nephew Rāmchandra Singh, who was born in 1872 and educated at the Rājkumār College, then located at Jubbulpore. He was installed in 1894, but had already then begun to show some signs of derangement of intellect, and in 1895 he shot his wife and himself in the palace, both dying instantaneously. As he left no male issue, his uncle Lāl Dalganjan Singh was recognized as chief, on his undertaking that he would conduct his administration with the assistance of a Dīwān appointed by Government. In 1900, in consequence of the unsatisfactory condition of the State and an outbreak of organized dacoity, the chief was called on to invest his Dīwān with large judicial powers and control over the police. A Political Agent in subordination to the Commissioner of Orissa, as Superintendent of the Tributary Mahāls, controls the relations of the State with the Bengal Government.

The population in 1901 was 277,748, having decreased by 16 per cent. during the preceding decade. The decrease is mainly to be attributed to the famine which visited the State in 1900. The number of inhabited villages is 1,850, and the density of population 116 persons per square mile. Nearly the whole population are Oriyās, and speak Oriyā. Gahrās or Ahīrs, Gāndas, Khonds, Gonds, and Savaras are the most numerous castes.

The soil is generally light and sandy, but some black soil is found in the north. About a third of the whole State is comprised in *zamīndāri* or other estates held on special tenures, of which no survey or measurement has been made. Of the remaining portion, 426 square miles were cultivated in 1904. The staple crops are rice, covering 243 square miles, *til* 86, pulses 41, and cotton 11. The surveyed area contains 1,139 wells and 1,581 tanks, from which 48 square miles can be irrigated. The exact area under forest is not known, but it has been estimated at 1,400 square miles. The principal timber tree is *sāl* (*Shorea robusta*), with which are associated *sāj* (*Terminalia tomentosa*), *bījāsāl* (*Pterocarpus Marsupium*), and other common species. There is a very little teak in the extreme south. Owing to the distance of the State from a railway, the exports of forest produce are not important. The sale of the hides of animals forms, however, a not inconsiderable item of revenue. Iron ore is found, and is smelted by indigenous methods and made up into agricultural implements. The State contains 45 miles of gravelled and 58 of embanked roads. The principal routes are those leading from Sambalpur by Bargarh to Bolāngir and on to Bhawāni Patnā, the Bolāngir-Sonpur road, and the road leading from Raipur to Vizianagram, which passes for 13 miles through Patnā. Exports of produce are sent principally to Sambalpur.

The total revenue in 1904 was Rs. 2,00,000, of which Rs. 77,000 was derived from land, Rs. 25,000 from forests, and Rs. 20,000 from excise. The land revenue is obtained by settlement with the headmen of villages, who are allowed a percentage of the 'assets.' In the area called the Kondhān, inhabited by the forest Khonds, the revenue is paid through the tribal chiefs, who receive remuneration in cash. The three tracts of Angar, Sorandā, and Patnāgarh are regularly surveyed and assessed on the 'soil-unit' system of the Central Provinces, and the remaining area is summarily assessed. The total expenditure in 1904 was Rs. 1,70,000: the principal heads being the tribute, Rs. 8,500; expenses of the ruling family, Rs. 39,000; general administration, Rs. 14,000; police, Rs. 22,000; and public works, Rs. 33,000. The tribute is liable to revision. The public works of the State were managed by the Chhattīsgarh States division from 1893 to 1904, and during this time Rs. 2,33,000 was expended. Besides the roads already

mentioned, a palace for the Mahārājā, a courthouse, and a dispensary have been constructed, in addition to minor works. The educational institutions comprise one English and one vernacular middle school, a girls' school, and 37 primary schools with a total of 3,819 pupils, including 672 girls. The expenditure on education in 1904 was Rs. 9,200. At the Census of 1901 only 5,142 persons were returned as literate, 1·9 per cent. (3·6 males and 0·1 females) being able to read and write. A dispensary has been established at Bolāngir, at which 25,000 patients were treated in 1904.

Pātoda.—'Crown' *tāluk* in the south-west of Bhīr District, Hyderābād State, with an area of 353 square miles. The population in 1901, including *jāgīrs*, was 30,022, compared with 42,085 in 1891, the decrease being the result of the famines of 1897 and 1899–1900. The *tāluk* contains 74 villages, of which 3 are *jāgīr*, and Pātoda (population, 3,179) is the head-quarters. The land revenue in 1901 was 1·1 lakhs. The Mānjra river rises in the hills west of Pātoda. The *tāluk* is situated on a fertile plateau, and is hilly toward the north and west.

Pātri (*Pātdi*).—Town in the Viramgām *tāluka* of Ahmadābād District, Bombay, situated in 23° 11′ N. and 71° 53′ E., on the Bombay, Baroda, and Central India Railway, 58 miles west of Ahmadābād city, on a bare plain at the border of the Rann of Cutch. The town is surrounded by a wall and contains a strong castle. Population (1901), 5,544. The chief trade is in cotton, grain, and molasses. The town has a dispensary and two vernacular schools, one of which is for girls, attended by 242 and 128 pupils respectively.

Pattadkal.—Village in the Bādāmi *tāluka* of Bijāpur District, Bombay, situated in 15° 57′ N. and 75° 52′ E., 9 miles from Bādāmi town. Population (1901), 1,088. It contains several old temples, both Brāhmanical and Jain, with inscriptions dating from the seventh or eighth century, and considered by experts to be pure examples of the Dravidian style of architecture.

Pattan Munāra.—Ancient ruin in the Naushahra *tahsīl* of Bahāwalpur State, Punjab, situated in 28° 15′ N. and 70° 22′ E., 5 miles east of Rahīmyār Khān. At the close of the eighteenth century the remains of four towers surrounding the central tower of a Buddhist monastery still existed here, but only the lower storey of the central tower now remains. Tradition avers that it had three storeys, and that the extensive mounds around it are the ruins of a city which was over 100 square miles in extent. It is possible that the ruins mark the site of the capital of Mousicanus, who, after a brief submission to Alexander, revolted and was crucified in 325 B.C. The name Mousicanus probably conceals the name of the tribe or territory ruled by the chieftain, and it has been suggested that it survives either in the tribal name of the Magsi or Magassi Baloch or in that of the Māchkās. Another

theory identifies the capital with Aror in Sind. A Sanskrit inscription, now lost, is said to have recorded the existence of an ancient monastery. The town was refounded by the Sūmras in the tenth century, but it is now a desolate ruin.

Pattī Tahsīl.—Eastern *tahsīl* of Partābgarh District, United Provinces, conterminous with the *pargana* of the same name, lying between 25° 39′ and 26° 4′ N. and 81° 56′ and 82° 27′ E., with an area of 467 square miles. Population increased from 272,592 in 1891 to 272,760 in 1901. There are 802 villages, but no town. The demand for land revenue in 1903–4 was Rs. 406,000, and for cesses Rs. 57,000. The density of population, 584 persons per square mile, is the lowest in the District. Through the centre of the *tahsīl* flows the Sai, while the Gumtī touches the north-east corner. A considerable area is badly drained, and a cut is now being made to improve it. The greater part, however, is fertile, and sugar-cane is grown more largely than elsewhere in the District. In 1903–4 the area under cultivation was 256 square miles, of which 136 were irrigated. Wells supply twice as large an area as tanks or swamps.

Pattī Town.—Town in the Kasūr *tahsīl* of Lahore District, Punjab, situated in 31° 17′ N. and 74° 52′ E., 38 miles south-east of Lahore city and the terminus of the Amritsar-Pattī branch of the North-Western Railway. Population (1901), 8,187. Pattī is an ancient town, and has been identified by some authorities with the Chīnapati of Hiuen Tsiang. It contains an old fort, used by Ranjīt Singh as a horse-breeding establishment. The population consists principally of Mughals, and is largely agricultural. The municipality was created in 1874. The income during the ten years ending 1902–3 averaged Rs. 5,300, and the expenditure Rs. 4,700. In 1903–4 the income was Rs. 5,400, chiefly derived from octroi; and the expenditure was Rs. 5,100. The town has a vernacular middle school and a dispensary.

Pattikonda Tāluk ('Cotton-hill').—Westernmost *tāluk* of Kurnool District, Madras, lying between 15° 7′ and 15° 52′ N. and 77° 21′ and 78° 1′ E., with an area of 1,134 square miles. The population in 1901 was 143,033, compared with 138,703 in 1891. The density is 126 persons per square mile, compared with the District average of 115 and the Presidency average of 270. The *tāluk* was the worst sufferer in the District in the great famine of 1876–8, when it lost about 60 per cent. of its inhabitants. It contains 104 villages, including five 'whole *ināms*,' but no town. PATTIKONDA, PYĀPALLI, Kodumūr, and Maddikera are places of some importance, the first being the head-quarters. The demand for land revenue and cesses in 1903–4 amounted to Rs. 3,20,000. The Tungabhadra forms the northern boundary, separating it from the Nizām's Dominions. The only other river

is the Hindri, which rises near Maddikera and drains nearly two-thirds of it. Pattikonda was part of Bellary District till 1858. It was then called Panchapālaiyam, or the 'land of the five *poligārs*.' Almost every village contains a ruined fort. The rainfall is 23 inches, about two-thirds of which is received during the south-west monsoon. The *tāluk* is almost entirely 'dry,' there being only 34,925 acres of 'wet' cultivation supplied by petty tanks and wells. The prevailing soil is black cotton soil, but the southern portion is gravelly and hilly. The *tāluk* contains 112 square miles of 'reserved' forests, almost the whole of which lies on the Erramalas in the southern and south-eastern portions.

Pattikonda Village.—Head-quarters of the *tāluk* of the same name in Kurnool District, Madras, situated in 15° 24′ N. and 77° 31′ E. The population in 1901 was 4,373, and it is a Union under the Madras Local Boards Act V of 1884. It consists of two portions: the old *pettah*, and the new Munro's *pettah* which is named after Sir Thomas Munro, Governor of Madras, who died here of cholera on July 6, 1827, when on tour. To his memory Government constructed a fine stone-faced reservoir, built a *mantapam*, or porch, close by, and planted round it a grove of tamarind-trees. The grove and well are maintained by the Rāmallakota *tāluk* board. A weekly market is held in front of the grove.

Pattukkottai Tāluk.—Southern subdivision and *tāluk* of Tanjore District, Madras, bordering on Palk Strait, and lying between 9° 49′ and 10° 35′ N. and 78° 55′ and 79° 32′ E., with an area of 906 square miles. The population in 1901 was 295,894, compared with 271,626 in 1891, showing an increase in the decade of nearly 9 per cent., due to the influx of labourers for the extension of the District board railway recently under construction. PATTUKKOTTAI TOWN, the head-quarters, has a population of 7,504, and ADIRĀMPATNAM, a small port, 10,494. The number of villages is 792. The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,97,000. In several ways it forms a striking contrast to the other *tāluks* of the District, since practically no part of it is within reach of the Cauvery. The greater portion is 'dry' land, the small 'wet' area within it being watered by tanks and wells; and the soil is nearly all of a red ferruginous variety which forms arable land of inferior quality. Four-fifths of the total area is either *zamīndāri* or *inām*, a further point of contrast to the rest of the District; but in the remainder the percentage of unoccupied land is higher, and the incidence of the assessment per head and the rent of the average holding are lower, than in any other *tāluk*. Pattukkottai is the most backward tract in Tanjore in point of education, and, though the largest of the *tāluks*, is the least densely peopled.

Pattukkottai Town.—Head-quarters of the *tāluk* of the same

name in Tanjore District, Madras, situated in 10° 26′ N. and 79° 19′ E., with a station on the District board railway. Population (1901), 7,504. An inscription in the ruined fort relates that this building was erected by Vānāji Panditar in honour of Shāhjī Mahārājā in A.D. 1686–7. In the western part of the town is an elaborately sculptured and ancient Siva temple of considerable size, containing many inscriptions. In 1815 Sarabhojī, the Rājā of Tanjore, erected a miniature fort and column, with an inscription in English to commemorate the triumph of the British arms and the downfall of Bonaparte. Brass vessels, mats, and coarse cotton cloths are manufactured.

Patuākhāli Subdivision.—South-eastern subdivision of Backergunge District, Eastern Bengal and Assam, lying between 21° 49′ and 22° 36′ N. and 89° 59′ and 90° 40′ E., with an area of 1,231 square miles. The subdivision is a fertile deltaic tract, merging to the south in the SUNDARBANS, where there are extensive areas of waste land covered with forest. The population in 1901 was 522,658, compared with 496,735 in 1891. It contains one town, PATUĀKHĀLI (population, 5,003), the head-quarters, and 1,051 villages, and is the most sparsely populated subdivision in the District, supporting only 425 persons per square mile, the density being lowest towards the south where the Sundarbans have been only partially reclaimed.

Patuākhāli Town.—Head-quarters of the subdivision of the same name in Backergunge District, Eastern Bengal and Assam, situated in 22° 22′ N. and 90° 22′ E., on the Patuākhāli river. Population (1901), 5,003. Patuākhāli was constituted a municipality in 1892. The income and expenditure during the decade ending 1901–2 both averaged Rs. 3,000. In 1903–4 the income was Rs. 5,000, half of which was derived from a property tax; and the expenditure was Rs. 4,000.

Pātūr.—Town in the Bālāpur *tāluk* of Akola District, Berār, situated in 20° 27′ N. and 76° 59′ E. Population (1901), 5,990. In the side of a low hill just east of the town are two caves hewn in the rock. These are simple *vihāras* with a veranda. The inscriptions on the pillars and architraves have not yet been deciphered, and the caves are otherwise unadorned, and contain no images except a portion of a seated figure with the legs crossed, which has been held to be a Jain saint, but may possibly be Buddhist.

The town is commonly known as Pātūr Shaikh Bābū from the shrine of Shaikh Abdul-Azīz, commonly known as Shaikh Bābū, who is said to have come to Pātūr from Delhi in 1378, and to have died here eleven years later. According to the legend the saint was highly regarded by Muhammad bin Tughlak, whom he cured of fever on one occasion, and who built the shrine over his grave. But unfortunately

for the legend, Muhammad bin Tughlak died thirty-nine years before the shrine was built. An inscription in the interior of the shrine contains a chronogram giving the date of the saint's death, while another over the principal gate records the fact that the shrine was repaired in 1606–7 by Abdur Rahīm, Khān-i-Khānān, son of Bairam Khān. A Hindu fair is held annually in January–February, lasting upwards of a month. A Musalmān fair, lasting for three days, is held at the shrine of Shaikh Bābū. The gates in the walls of the town bear some inscriptions, now illegible.

Pauk Subdivision.—South-western subdivision of Pakokku District, Upper Burma, comprising the PAUK, SAW, and SEIKPYU townships.

Pauk Township.—Central township of Pakokku District, Upper Burma, lying between 21° 10′ and 21° 49′ N. and 94° 18′ and 94° 44′ E., with an area of 1,490 square miles. It is a rugged tract, bounded on either side by hill ranges, and watered by the Kyaw river, a considerable affluent of the Yaw, which flows through its southern areas. Along these two streams a considerable amount of rice is grown. The population was 36,515 in 1891, and 41,021 in 1901, distributed in 190 villages. Pauk (population, 1,826), a village near the junction of the Kyaw and Yaw streams, about 40 miles west of Pakokku, is the head-quarters. The area cultivated in 1903–4 was 42 square miles, and the land revenue and *thathameda* amounted to Rs. 94,000.

Paukkaung.—Eastern township of the Prome subdivision of Prome District, Lower Burma, lying between 18° 48′ and 19° 11′ N. and 95° 21′ and 95° 53′ E., with an area of 694 square miles. The population in 1901 was 29,797, including nearly 5,000 Chins, and in 1891 was 31,995, so that the decrease has been 7 per cent. in ten years. The eastern half of the township is covered by the forests of the Pegu Yoma, and the density is low. There are 241 villages, the head-quarters being Paukkaung (population, 1,224), which is connected with Prome by a good road. The area cultivated in 1903–4 was 32 square miles, paying Rs. 15,000 land revenue. The total revenue for the same year was Rs. 88,000.

Pauktaw.—Township of Akyab District, Lower Burma, lying between 19° 47′ and 20° 24′ N. and 92° 56′ and 93° 15′ E., on the eastern bank of the Kaladan river, with an area of 496 square miles, the greater part of which is flat country intersected by tidal creeks. The population was 40,875 in 1891, and 43,395 in 1901. There are 190 villages, but no town. The head-quarters are at Pauktaw (population, 755), on a tidal creek to the east of Akyab town. The area cultivated in 1903–4 was 127 square miles, paying Rs. 1,88,000 land revenue.

Paumben.—Island and village in Madura District, Madras. *See* PĀMBAN.

Paundravardhana.—Ancient kingdom in Eastern Bengal and Assam. *See* PUNDRA.

Paung.—Township in the Thaton District of Lower Burma, lying between 16° 28′ and 16° 52′ N. and 97° 14′ and 97° 36′ E., with an area of 353 square miles. It is bounded on the north by the Thaton township; on the east and south by the Donthami and Salween rivers; and on the west by the Gulf of Martaban. The township is fertile and thickly populated. The population was 46,332 in 1891, and 55,071 in 1901, inhabiting 142 villages. The head-quarters are at Paung, a village of 1,651 inhabitants, on the western slopes of the Martaban hills, which run north and south through the centre of the township. The ancient site of Martaban lies at its south-eastern corner on the Salween, opposite the port of Moulmein. The area cultivated in 1903–4 was 224 square miles, paying Rs. 3,23,600 land revenue.

Paungbyin.—Central township of the Upper Chindwin District, Upper Burma, extending on either side of the Chindwin river from the Yoma to Kathā District, between 23° 48′ and 24° 35′ N. and 94° 32′ and 95° 12′ E., with an area of 2,719 square miles. Except in the valley of the Chindwin, it is a mass of low hills. The population was 19,190 in 1891, and 26,409 in 1901, distributed in 268 villages, of which the most important is Paungbyin (population, 1,167), the head-quarters, on the Chindwin, about 70 miles north of Kindat. The area cultivated in 1903–4 was 40 square miles, and the land revenue and *thathameda* amounted to Rs. 68,000.

Paungde Subdivision.—South-eastern subdivision of Prome District, Lower Burma, comprising the PAUNGDE and THEGON townships.

Paungde Township.—South-eastern township of the Paungde subdivision of Prome District, Lower Burma, lying between 18° 26′ and 18° 52′ N. and 95° 23′ and 95° 50′ E., with an area of 379 square miles. Except in the neighbourhood of the Pegu Yoma in the north-east, the township is flat and thickly populated. The population increased from 56,430 in 1891 to 60,604 in 1901. There are 250 villages and one town, PAUNGDE (population, 11,105), the head-quarters. The area cultivated in 1903–4 was 86 square miles, paying Rs. 86,000 land revenue.

Paungde Town.—Head-quarters of the subdivision of the same name in Prome District, Lower Burma, situated in 18° 30′ N. and 95° 31′ E., on the Rangoon-Prome railway, 130 miles from Rangoon and 32 miles by road from Prome. The population in 1901 was 11,105, and has steadily increased since 1872. Paungde was constituted a municipality in 1884. The municipal income and expen-

diture during the ten years ending 1900 averaged between Rs. 31,000 and Rs. 32,000. In 1903-4 the income was Rs. 42,000, the chief sources of revenue being tolls on markets and slaughter-houses (Rs. 26,000), and house tax (Rs. 4,300); and the expenditure was Rs. 37,000, the principal items being roads (Rs. 6,500) and conservancy (Rs. 4,200). The town contains a jail, a hospital, and a middle school. The Provincial reformatory was removed from Paungde to Insein in 1896, the premises being converted into a jail, and in 1900 new jail buildings were erected. The middle school, established in 1875, has 130 pupils.

Paunglaung.—River of Burma. *See* SITTANG.

Paunī.—Town in the District and *tahsīl* of Bhandāra, Central Provinces, situated in 20° 48′ N. and 79° 39′ E., on the Wainganga river, 32 miles south of Bhandāra town by road. Population (1901), 9,366. Some bathing *ghāts* or flights of stone steps have been constructed on the bank of the Waingangā, and the town contains a fort which was stormed by the British in 1818. Paunī was constituted a municipality in 1867. The municipal receipts during the decade ending 1901 averaged Rs. 4,200. In 1903-4 the income was Rs. 4,500, mainly derived from a house tax. The staple industry of the town is the manufacture of silk-bordered cloths, and thread of very fine counts is woven. The weavers are, however, not very prosperous. The town stands in the fertile black-soil tract called the Paunī Haveli. It contains vernacular middle and girls' schools, a school for low-caste Dher boys, and an Urdū school, and also a dispensary.

Paurī.—Head-quarters of Garhwāl District, United Provinces, situated in 30° 8′ N. and 78° 46′ E., at an elevation of 5,390 feet above sea-level. Population (1901), 486. The village lies on the northern slope of the Kandauliā hill, with a magnificent view of a long line of snow-clad mountains. Paurī was chosen as the head-quarters of the Garhwāl subdivision of Kumaun District in 1840. Besides the usual offices, it contains a dispensary and a jail. The American Methodist Mission has its head-quarters here, and maintains a dispensary, a female orphanage, and schools for boys and girls.

Pāvāgarh.—Hill fort in the Kālol *tāluka* of the Pānch Mahāls District, Bombay, situated in 22° 31′ N. and 73° 36′ E., about 28 miles east of Baroda and 11 miles south-east of Chāmpāner Road station on the Baroda-Godhra Railway. It stands on an isolated hill surrounded by extensive plains, from which it rises abruptly to the height of 2,500 feet, being about 2,800 feet above the level of the sea. The base and lower slopes are thickly covered with rather stunted timber; but its shoulders and centre crest are, on the south, west, and north, cliffs of bare trap, too steep for trees. Less inaccessible, the eastern heights are wooded and topped by massive masonry walls and bastions,

rising with narrowing fronts to the scarped rock that crowns the hill. To the east of Pāvāgarh lie the vast Bārya State forests, and the hill seems to form the boundary between the wild country to the east and the clear open plain that stretches westward to the sea. On the east side of the north end of the hill are the remains of many beautiful Jain temples; and on the west side, overlooking a tremendous precipice, are some Musalmān buildings of more modern date, supposed to have been used as granaries. The southern extremity is more uneven, and from its centre rises an immense peak of solid rock, towering to the height of about 250 feet. The ascent to the top of this is by a flight of stone steps, and on its summit stands a Hindu temple of Kālī, with a Musalmān shrine on its spire. The fortifications include the lower fort, a massive stone structure with strong bastions stretching across the less precipitous parts of the eastern spur. This line of fortification is entered by the Atak Gate, once double, but now with its outer gate in ruins. Half a mile farther is the Moti or Great Gate, giving entrance to the second line of defence. The path winds up the face of the rock through four gates, each commanding the one below it. Massive walls connect the gates and sweep up to the fortifications that stretch across the crest of the spur. Beyond the Moti Gate, the path for about 200 yards lies over level ground with a high ridge on the left, crowned by a strong wall running back to the third line of defence. This third line of defence is reached through the Sadan Shāh Gate, a winding passage cut through the solid rock, crowned with towering walls and bastions, and crossed by a double Hindu gateway.

In old inscriptions the name of the hill appears as Pāvakgarh or 'fire hill.' The first historical reference to it is in the writings of the bard Chānd, twelfth century, who speaks of Rām Gaur the Tuār as lord of Pāva. The earliest authentic account is about 1300, when it was seized by Chauhān Rājputs, who fled from Mewār before the forces of Alā-ud-dīn Khiljī. The Musalmān kings of Ahmadābād more than once attempted to take the fort, and failed. In 1484 Sultān Mahmūd Begara, after a siege of nearly two years, succeeded in reducing it. On gaining possession, he added to the defences of the upper and lower forts, and for the first time fortified the plateau, making it his citadel. In spite of its strength, it was captured through treachery in 1535 by the emperor Humāyūn. In 1573 it fell into the hands of Akbar. In 1727 it was surprised by Krishnājī, who made it his head-quarters, and conducted many raids into Gujarāt. Sindhia took the fort about 1761; and Colonel Woodington captured it from Sindhia in 1803. In 1804 it was restored to Sindhia, with whom it remained until 1853, when the British took over the management of the Pānch Mahāls.

Pāvugada. — North-eastern *tāluk* of Tumkūr District, Mysore,

detached from the rest, and almost entirely surrounded by Madras territory. It lies between 13° 53′ and 14° 21′ N. and 77° 0′ and 77° 31′ E., with an area of 524 square miles. The population in 1901 was 61,241, compared with 53,377 in 1891. The *tāluk* contains one town, Pāvugada (population, 2,840), the head-quarters; and 144 villages. The land revenue demand in 1903–4 was Rs. 99,000. The Penner flows across the east. The west and north of the *tāluk* abound in rocky hills, many crowned with fortifications, among which the needle-peak of Nidugal (3,772 feet) is conspicuous from all the surrounding country. The separate tract east of the Penner is also bounded by hills. The soil is sandy, and contains many *talpargis* or spring-heads. In some parts wells have to be cut through a soft porous rock. Some tobacco and cotton are grown. Iron and rice are exported.

Pāwapuri (*Apāpapuri*, the 'sinless town').—Village in the Bihār subdivision of Patna District, Bengal. Population (1901), 311. Mahāvīra, the last of the Jain patriarchs, is said to have been buried in the village, which possesses three Jain temples and is a great place of pilgrimage for the Jains.

Pawāyān Tahsīl.—North-eastern *tahsīl* of Shāhjahānpur District, United Provinces, comprising the *parganas* of Pawāyān, Barāgaon, and Khutār, and lying between 27° 55′ and 28° 29′ N. and 79° 53′ and 80° 23′ E., with an area of 591 square miles. Population fell from 249,222 in 1891 to 223,359 in 1901, the decrease being the largest in the District. There are 653 villages and one town, PAWĀYĀN (population, 5,408), the *tahsīl* head-quarters. The demand for land revenue in 1903–4 was Rs. 2,90,000, and for cesses Rs. 46,000. The density of population, 378 persons per square mile, is the lowest in the District. In the north lies an area of about 52 miles of forest. The Gumtī, which is here a small stream, crosses the centre of the *tahsīl*, and on either bank extends an arid stretch of sandy soil with malarious swamps in the low-lying places. The western portion is more fertile, and there is some good land between the forest and the central tract. In 1903–4 the area under cultivation was 360 square miles, of which 114 were irrigated. Wells supply three-quarters of the irrigated area, and swamps or *jhīls* most of the remainder.

Pawāyān Town.—Head-quarters of the *tahsīl* of the same name in Shāhjahānpur District, United Provinces, situated in 28° 4′ N. and 80° 5′ E., on the steam tramway from Shāhjahānpur city to Mailānī in Kherī District. Population (1901), 5,408. Pawāyān was founded early in the eighteenth century by a Rājā whose descendants still own a large estate in the neighbourhood. It contains a *tahsīlī*, a *munsifī*, a dispensary, and a branch of the American Methodist Mission. Pawāyān is administered under Act XX of 1856, with an

income of about Rs. 1,800. The bazar is poor and straggling, but there is some trade in sugar and brass vessels. The *tahsīlī* school has 158 pupils.

Payāgale.—Central township of Pegu District, Lower Burma, lying between 17° 15′ and 17° 57′ N. and 96° 1′ and 96° 54′ E., with an area of 1,236 square miles. It contains one town, PEGU (population, 14,132), the head-quarters of the District; and 242 villages. The township head-quarters are at Payāgale, a village of 882 inhabitants on the railway, about 14 miles north of Pegu. The population was 69,822 in 1891, and 93,209 in 1901. The western half of the township is hilly and sparsely populated, and, though the eastern half is a level plain crowded with villages, the average density is only 75 persons per square mile. The area cultivated in 1903–4 was 296 square miles, paying Rs. 4,73,300 land revenue.

Pāyānghāt ('below the Ghāts') (1).—The name given by the Musalmāns of Bijāpur to the low country in the east of the present Mysore State, conquered by them from Vijayanagar in the seventeenth century.

Pāyānghāt (2).—The name given in Berār to the valley of the Pūrna river, the principal affluent of the Tāpti. The valley lies between the Melghāt or Gāwīlgarh hills on the north and the Ajanta range on the south, and varies in breadth from 40 to 50 miles. Except the Pūrna, which is the main artery of the river system, scarcely a stream in this tract is perennial.

Peddāpuram Subdivision.—Subdivision of Godāvari District, Madras, consisting of the PEDDĀPURAM and RĀMACHANDRAPURAM *tāluks*.

Peddāpuram Tāluk.—Inland *tāluk* in Godāvari District, Madras, lying between 16° 57′ and 17° 39′ N. and 81° 55′ and 82° 20′ E., with an area of 504 square miles. The population in 1901 was 167,020, compared with 161,841 in 1891. It contains one town, PEDDĀPURAM (population, 12,609), the head-quarters; and 200 villages, of which Jaggammapeta is an important local market. The demand on account of land revenue and cesses in 1903–4 amounted to Rs. 3,89,000. The *tāluk* has a good system of irrigation from reservoirs, and the Lingamparti tank, the largest in the District, irrigates 5,000 acres. Along the Yeleru, a perennial stream running through it, is some exceptionally fertile soil. The greater part of the *tāluk*, however, is covered with hills and jungle. The chief crops are rice, oilseeds, *rāgi*, pulses, and (in the Yeleru valley) sugar-cane.

Peddāpuram Town.—Head-quarters of the *tāluk* of the same name in Godāvari District, Madras, situated in 17° 5′ N. and 82° 8′ E. Population (1901), 12,609. Peddāpuram was formerly the head-quarters of a large *zamīndāri*; and the ruins of a fort stand on the hill overlooking the town. The place possesses a large weekly market,

and a high school maintained by the American Evangelical Lutheran Mission. Local affairs are managed by a Union ***panchāyat.***

Pegu Division.—Division of Lower Burma, lying between 16° 19′ and 19° 11′ N. and 94° 41′ and 96° 54′ E., and comprising the greater part of the strip of country that stretches between the Irrawaddy and the Sittang rivers from 19° N. to the Gulf of Martaban, and, with the exception of a single township, wholly to the east of the former river. It is well watered and, except for the area covered by the Pegu Yoma at the northern end, forms one expanse of plain land of extraordinary fertility.

The population of the Division at the last four enumerations was: (1872) 848,077, (1881) 1,215,923, (1891) 1,523,022, and (1901) 1,820,638. Its head-quarters are at RANGOON, and it contains the following Districts:—

District.	Area in square miles.	Population, 1901.	Land revenue, 1903-4, in thousands of rupees.
Rangoon City	19*	234,881	32
Hanthawaddy	3,023	484,811	34,29
Tharrawaddy	2,851	395,570	11,22
Pegu	4,276	339,572	18,72
Prome	2,915	365,804	4,81
Total	13,084	1,820,638	69,36

* Exclusive of river areas.

Of the inhabitants in 1901, 1,541,388 were Buddhists, 65,534 Musalmāns, 152,191 Hindus, 38,274 Christians, and 21,709 Animists, the majority of the remainder being Sikhs and Jews. According to race, 1,330,816 were Burmans, 103,420 Karens, and 78,576 Talaings. The density was 139 persons per square mile, or a little over three times as great as that of the Province as a whole. In 1901 the Division contained 8 towns and 6,817 villages. Of the towns only two—RANGOON (234,881), and PROME (27,375)—had a population exceeding 20,000. Rangoon lies at the southern end of the Division, and there is no other commercial centre. In PROME and PEGU, however, it possesses towns of historical interest, once the capitals of two dynasties of the past, that of the Pyus in the north and that of the TALAINGS in the south, and both the scene of warlike operations during the first and second Burmese Wars. Syriam, close to and west of Rangoon, also has a place in the history of Burma as a famous emporium of olden days, and one of the first of the ports at which the people of the country entered into commercial relations with the strangers who were destined centuries later to be their conquerors.

Pegu District.—District in the Pegu Division of Lower Burma, lying between 16° 54′ and 18° 25′ N. and 95° 57′ and 96° 54′ E., with an area of 4,276 square miles. It was formed in 1883 by taking the townships of Kyauktan, Paunglin (now Hlegu), Pegu (now Kawa and Payāgale), and Pagandaung (now Thabyegan) from Hanthawaddy District. In 1895 the Pyuntazā and Nyaunglebin townships were transferred from what was then Shwegyin District to Pegu, and Kyauktan and Thabyegan were returned to Hanthawaddy. Pegu is separated on the north from Toungoo District by the Kun stream, which rises in the Pegu Yoma and flows in an easterly direction into the Sittang river, which in its turn constitutes the eastern boundary of the District. The Pegu Yoma forms the western boundary; and on the south the District is separated from Hanthawaddy District by an irregularly demarcated line drawn along a spur of the Yoma eastward to the Gulf of Martaban.

Physical aspects.

Portions of the hilly country in the north-west are picturesque, but the greater part of the District and more than nine-tenths of the inhabited area have little claim to attention except from an agricultural or commercial standpoint. East of the railway line, as far as the horizon, lies a vast almost treeless plain, green in the rains, but very bare during the hot months of the year.

The only rivers of importance are the Pegu river, the Ngamoyeik or Pazundaung creek, and the Sittang. The first rises in the Yoma, and after flowing past Pegu town in a south-easterly direction, finally enters the Rangoon or Hlaing river near its mouth. The second, also rising in the Yoma, has a southerly course through the south-west corner of the District, and flows into the Rangoon river close to where the Pegu river enters it. The Sittang river is navigable by boats of shallow draught, but is extremely dangerous in its lower reaches owing to an enormous bore, which rushes up it from time to time from the Gulf of Martaban. To avoid this, and at the same time to facilitate trade with Rangoon, the Pegu-Sittang Canal was constructed. This canal extends from Myitkyo, on the Sittang, as far west as Tāwa, on the Pegu river, and forms one of the most distinctive geographical features of the District. Other streams which flow from the Yoma eastwards into the Sittang, draining the Nyaunglebin or northern subdivision, are the Kyeingyaung, the Yenwe, and the Pagangwe, which are perennial, but navigable only during the monsoon.

The rocks of the Pegu Yoma, which occupies the north-western portion of the District, consist of what have been called Pegu groups of beds, and are miocene in age. The rest of the District is alluvial, the type of alluvium being that common to the whole of the delta. In the west, where the land is high, laterite exists in large quantities.

The forests are of two kinds, evergreen and deciduous. The former may be either closed or open in character. The closed evergreen forests consist of lofty trees of *Sterculia*, *Albizzia*, *Pterocarpus*, *Dipterocarpus*, *Parashorea*, and *Hopea* species, under which are smaller growths. Among palms are found *Livistonia*, *Arenga saccharifera*, *Areca*, and *Calamus*. Climbers and creepers are very numerous and varied, and the flowering shrubs are beautiful. The open evergreen forests are found along the eastern base of the Pegu Yoma as far down as Rangoon. They are less damp than the closed forests, and contain fewer creepers and climbers. Chief among their constituents are *Dipterocarpus laevis*, *D. alatus*, *Parashorea stellata*, *Pentace burmannica*, *Albizzia lucida*, *Lagerstroemia tomentosa*, and *Dillenia parviflora*. The deciduous forests are either open or mixed in character. The open are of two kinds, *in* forests and low forests. The former are found chiefly on laterite, and are characterized by *in* (*Dipterocarpus tuberculatus*), *Dillenia pulcherrima*, *Shorea leucobotrya*, *Pentacme siamensis*, *Xylia dolabriformis*, *Lagerstroemia macrocarpa*, and *Strychnos Nux-vomica*. The low forests are similar to the *in* forests, but this tree itself is generally absent, and the ground is covered with long stiff grass. The mixed forests are of several kinds. The lower mixed forests are not unlike the low forests, but are without the dense grass covering and the vegetation characteristic of laterite soil; the upper stretches, typical of the Pegu Yoma, contain teak in abundance, and also *Xylia dolabriformis*, *Dillenia parviflora*, three species of *Sterculia* and *Terminalia*, *Lagerstroemia Flos Reginae*, *L. tomentosa*, and *Homalium tomentosum*. Bordering the rivers are savannah forests similar to those described under HANTHAWADDY DISTRICT. Orchids abound everywhere[1].

The jungles are the habitat of all the beasts common to Lower Burma. In the month of December, before the crops are reaped, herds of wild elephants come down from the hills and do great damage; bison, hog, and many kinds of deer are also met with, but their numbers annually decrease owing to their destruction by man, and they are gradually retiring into the hills farther from the haunts of civilization.

The climate of Pegu is very similar to that of Rangoon, but, probably owing to its proximity to the hills, the rainfall is heavier. The average fall for five years is 119 inches recorded at Pegu town, and 114 inches farther north at Nyaunglebin. It is probably rather higher in the hilly areas to the west, and lower in the extreme north near the Toungoo border. Large tracts of country are unprotected by embankments, and on this account are liable to be flooded by the overflow of the Sittang.

[1] See Kurz, *Preliminary Forest Report of Pegu* (Calcutta, 1875).

History.

Legends relate that the town of Pegu was founded by Thāmala and Wimala, two sons of the ruler of the Talaing kingdom of Thaton in A.D. 573, the elder son, Thāmala, being consecrated king. From the commencement of the historical period Pegu was an important centre of Talaing rule, in the end taking the place that had been occupied by the ancient capital of Thaton, and during the closing years of their independence the Talaings were generally known as Peguans. Little is known of the history of Pegu until the beginning of the fifteenth century. The Talaings were constantly at war with the Burmans, and for two centuries and a half were under Burmese dominion. In 1385 Razadirit, one of the greatest of the Talaing kings, came to the throne. This monarch was constantly engaged in hostilities, but it is recorded that before his death in 1422 he found time to devote himself to religion and good works and to the reorganization of his kingdom. In the year 1534 Pegu was besieged by Tabin Shweti, of Toungoo, and ultimately captured. Tabin Shweti reigned ten years in Pegu, and is entitled to the merit of having built numerous pagodas in the District. On his death one of his generals, Bayin Naung, who took the name of Sinbyumyashin ('the lord of many white elephants'), made himself master of the whole of the Sittang Valley. Cesare de' Federici, who visited Pegu in 1569, wrote of this monarch:—

'The emperor has twenty-six tributary crowned kings and can bring into the field a million and a half of men, and, as they will eat anything, they only want water and salt, and will go anywhere. For people, dominions, gold and silver, he far excels the power of the great Turk in treasure and strength.'

On his death in 1581 Sinbyumyashin's enormous territories, larger than any ever ruled over by a monarch in Burma, were left to his successor, but with the removal of his controlling hand the empire soon resolved itself into a congeries of minor principalities. Pegu fell into the hands of the Burmans of Ava at the beginning of the seventeenth century, and it was not till 1740 that the Talaing dynasty was revived. Seventeen years later the town was once more and finally captured from the Talaings by the famous Alompra (Alaungpayā). The conqueror had from the first made the eclipse of Pegu by his newly founded town of Rangoon one of the main features of his policy, and with the final defeat of the Talaings the old capital ceased to play a part of any importance in history.

During the wars with the British, Pegu was the scene of several encounters. After the capture of Rangoon in 1824 the Burman commander-in-chief retired here, but the inhabitants rose against him and handed the place over to the British. During the second Burmese War the town was more stubbornly defended. Early in

June, 1852, the defences were carried by a force under Major Cotton and Commander Tarleton, R.N., the granaries were destroyed, and the guns carried away. The Talaing inhabitants, however, at whose request the expedition had been sent, were unable to hold the town after the withdrawal of the British, and the Burmans reoccupied the pagoda platform and threw up strong defences along the river. In November of the same year a force under Brigadier McNeill was sent from Rangoon to retake the town, which object it accomplished after considerable fighting and with some loss. Most of the troops were withdrawn, a garrison of about 500 men with a few guns under Major Hill being left. Hardly had the main force retired, however, when the Burmans attacked this garrison, which was not ultimately relieved till a considerable force had been dispatched against the enemy. As the result of the war, the province of Pegu passed to the British and became, with the previously acquired provinces of Arakan and Tenasserim, the Chief Commissionership of Lower Burma. Rangoon has ever since been the capital of the Province.

The District contains several interesting pagodas, most of which are situated either in or close to the capital. At Payāgyi, 10 miles north of Pegu on the railway, is a large pagoda which was first built by Nga Ya Gu, the son of a minister of one of the early Peguan kings. The building has long been in bad repair, but is now being renovated.

Population.

The population at the last four enumerations was: (1872) 110,875, (1881) 184,815, (1891) 237,594, and (1901) 339,572. These figures show a rapid growth, only exceeded in Lower Burma by the increase in Myaungmya and Pyapon Districts. The distribution according to townships in 1901 is shown in the following table:—

Township.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Hlegu	703	...	233	49,642	71	+ 11	13,907
Kawa	514	...	206	79,057	154	+ 31	24,579
Payāgale	1,236	1	242	93,209	75	+ 33	29,799
Pyuntazā	1,443	...	232	52,952	37	+ 129	13,315
Nyaunglebin	380	1	261	64,712	170	+ 64	15,172
District total	4,276	2	1,174	339,572	79	+ 43	96,772

The great majority of the inhabitants are rural. The District contains one municipal town, PEGU, its head-quarters, and one other urban area containing more than 5,000 inhabitants, NYAUNGLEBIN, administered by a town committee. As is the case everywhere in

Burma, Buddhists (305,500) form the majority, but the number of Hindus (18,600) is not insignificant. The latter are for the most part Tamil-speaking cultivators from Madras. The number of Christians is 9,000, and of Musalmāns 4,800. Burmese is the language of 83 per cent. of the population. Karen is freely spoken, but only a small proportion of the Talaings use their ancestral tongue.

The Burmans, with a total of 223,500, outnumber all other nationalities. The Talaings are, however, about 45,000, and the Karens about 33,000 in number. In 1901 no less than 68 per cent. of the total population were directly supported by agriculture. Of these, 4,580 were dependent on *taungya* (shifting hill cultivation) alone.

There are 8,885 native Christians. The American Baptist Mission works among the Karens, the chief centres of Christian population being Pado, in the neighbourhood of Nyaunglebin, and Intagaw, in the Kawa township; but the Pwo Karens near Hlegu and the Sgaws in the Payāgale township continue as a rule in the Buddhist faith. There is a Roman Catholic mission at Nyaunglebin, with a good brick church. In 1901, 6,982 persons were returned as belonging to the Baptist communion, the number of Roman Catholics being only 257. It is probable that a good many of the Roman Catholics of the District omitted to give their denomination at the Census, and thus were included in the total of those whose sects were not returned.

Agriculture.

Pegu consists for the most part of a vast alluvial plain, formed by the deposits of the Sittang and Pegu rivers and their tributaries. The soil is a rich loam, and generally fertile. In the north of the District, where cultivation is comparatively recent, the crops are particularly plentiful; but in the southern townships of Hlegu and Kawa the soil is beginning to show signs of exhaustion, and fallows are not infrequent. The easternmost part of the Kawa township has been quite recently formed by fresh deposits of the Sittang, and the soil here is so impregnated with salt that cultivation is not on the whole very profitable. To the advantages of a fertile soil are added those of a plentiful supply of rain. In fact cultivation sometimes suffers from an excess of water; and owing to the uniform flatness of most of the District, when a flood does occur its effects are apt to be very far-reaching.

There is little that calls for special note in connexion with the systems of cultivation in the District. In growing rice the ordinary methods obtaining in Lower Burma are followed. Ploughing is begun in June, shortly after the beginning of the rains, and transplanting, where in vogue, is generally completed by the end of August. In most parts, however, transplantation is not largely adopted. Sowing broadcast is much cheaper; and under favourable conditions of soil and rainfall this method is found to produce a sufficiently good crop,

so that, as a rule, transplanting from nurseries is undertaken only in order to fill up gaps where sowing has not proved successful. The practice of pruning the rice by cutting off the tops of the blades before the plant comes into ear seems to be not uncommon. Reaping is begun in December, and the harvest is generally completed by the end of January.

The following are the main agricultural statistics for 1903–4, in square miles:—

Township.	Total area.	Cultivated.	Forests.
Hlegu	703	161	2,557
Kawa	514	345	
Payāgale . . .	1,236	296	
Pyuntazā . . .	1,443	170	
Nyaunglebin . .	380	188	
Total	4,276	1,160	2,557

In 1903–4 rice occupied 1,133 square miles, out of a total cultivated area of 1,160 square miles, or as much as 98 per cent. Several varieties are produced, that known as *ngasein* being the commonest in all parts, but the preference for any particular kind seems to depend on little else than custom or the whim of the cultivator. After rice, the principal food-crops are mangoes, plantains, and jack-fruit. Nearly 11,000 acres are under orchards, about a quarter of this being given up to plantains. Some maize and tobacco and a little sesamum are grown, but these products are of no great importance.

In most parts of the District the area under cultivation is being rapidly extended. It stood at 908 square miles in 1891, 1,141 square miles in 1901, and 1,160 square miles in 1904. It has, in fact, been found necessary of late to depute several officers for the sole purpose of making grants of land. The new ground on the bank of the Sittang furnishes the most important field for their work. Farther north, too, lie large tracts of hitherto unoccupied jungle land, which are being taken up and cleared for cultivation. Apart from the increase in area, cultivation does not seem to be very progressive. Little or no improvement can be noted in the quality of the seed, nor have attempts to introduce new varieties met with any success. The working of the Land Improvement and Agriculturists' Loans Acts is said to be not altogether successful in Pegu. In spite of the precautions that are taken to prevent large areas of land from falling into the hands of speculators, the annual statistics show a large increase in the landlord class.

Cattle-breeding is not carried on to any great extent. Most of the cattle used by cultivators are imported from the Shan States or Upper Burma. There are, however, in the north a few low-lying tracts where

the ground is too deeply flooded for cultivation, and here buffalo-breeding becomes an occupation of some importance. In the Pyuntazā, Nyaunglebin, and Hlegu townships no difficulty is experienced in feeding cattle. In the Payāgale and Kawa townships, however, where cultivation has practically monopolized the whole available area, more grazing grounds are urgently wanted. From the Nyaunglebin subdivision herds of buffaloes have to be sent after the ploughing season to other parts of the District, where they can be more conveniently fed till the following rains. There is no sheep or goat breeding.

The District is so well provided with water that no system of irrigation is necessary. There are over a hundred fisheries in different parts, especially in the flooded tracts of Pyuntazā and Kawa, which are leased annually for sums ranging from Rs. 100 to Rs. 5,000; but the fishing industry nowhere assumes the importance that it does in the Irrawaddy delta.

Forests.

With the exception of a few areas reserved for fuel-supply in the middle of the cultivated plains, the whole of the forest system lies to the west of the railway, covering the broken and hilly country on the slopes of the Pegu Yoma. South of the Kodugwe stream is an extensive evergreen tract, which is one of the most remarkable and beautiful features of the District, but it produces only the *pyinma* (*Lagerstroemia Flos Reginae*) and *thitsi* (*Melanorrhoea usitata*) among trees which have a marketable value. In the deciduous forests are found teak, *pyingado* (*Xylia dolabriformis*), *kanyinbyu* (*Dipterocarpus alatus*), *kokko* (*Albizzia Lebbek*), and *in* (*Dipterocarpus tuberculatus*), together with other trees, many with gorgeous flowers and luxuriant foliage. Savannah forests are still to be found near the mouth of the Sittang, but they are fast disappearing, to give place to cultivation. The few patches of scrub jungle east of the railway line contain large quantities of a creeper (*Parameria glandulifera*) which yields a good quality of rubber. Minor products of more importance commercially, however, are wood-oil, *shaw* fibre (*Sterculia*), bamboo, and cane. A quantity of timber is floated down the Sittang, and thence, through the Pegu-Sittang Canal, into the Pegu river. Of the whole area of 4,276 square miles comprised within the District of Pegu, 2,057 square miles are included in 'reserved' forests, and about 500 square miles are classed as 'unprotected' forest land. The gross forest receipts in 1903-4 amounted to 2 lakhs.

Very few minerals are known to exist. A prospecting licence to search for gold in the bed of the Sittang river has recently been granted to a European firm, who have large interests in the petroleum trade in Upper Burma. It remains to be seen whether their operations will have any result in that portion of the stream that skirts Pegu District. Laterite is plentiful in the west, and clay is extensively used

for pottery work at Pegu and Tāwa, and for the manufacture of bricks, of which a large and constant supply is required for pagoda building.

In a District so largely devoted to rice cultivation, only domestic industries or those ancillary to agriculture provide employment for any considerable number of the people.

Trade and communications.

Pegu was in former days famed for its pottery, but the article well-known throughout the country as the 'Pegu jar' is not now manufactured to any extent in the District. The industry is still carried on, however, in Pazunmyaung, on the bank of the Sittang, and in the town of Pegu itself. Here, in the dry season, pots of the ordinary domestic kinds are made in large quantities for local use, the glazing material being brought from the hills east of the Sittang; but the ceramic art is no longer practised with the skill and assiduity of former days.

Mention must be made of the silver-work of Pegu. There is nothing peculiar in the methods of the silversmiths; but special care and dexterity appear to be applied to the work, and prizes have been won by local artificers at exhibitions. In parts of the Hlegu township, where the *thinbyu* reed is readily obtainable, mat-making is practised. Carts and agricultural tools are made in quantities, but only for the local market. In spite of the vast quantity of paddy produced, the rice-milling industry is practically non-existent. There are two small mills at Pegu and one at Nyaunglebin, but the rice-mills of Rangoon are so easily and quickly reached that the profits of local millers are barely sufficient to make it worth their while to work regularly. Timber-sawing affords employment for some of the inhabitants of the western part of the District, and there are steam saw-mills at Pegu, at Nyaunglebin, and at Madauk on the Sittang river.

The enormous plain which occupies the eastern portion of the District is entirely given up to the cultivation of rice, which finds its market in Rangoon. During the months of January and February the resources of the railway are severely strained to convey the mountains of paddy that are stacked at the stations north of Pyinbongyi. The ceaseless roll of carts, the volumes of dust, and the babel of voices make existence intolerable in any of these so-called railway towns during the busy season. The rice from the southern part of the District is generally conveyed by the numerous waterways that converge at Rangoon. On the east side the canal south of Minywa is alive with traffic at this time; and the lock at Tāwa, where boats congregate to await the tide in the Pegu river, presents at night an animated and striking scene. On the south-western side of the District the Pazundaung creek, which flows into the Hlaing at Rangoon, carries down almost all the rice from the Hlegu township. The great majority of the population are engaged in some way in agriculture, even traders

and others striving hard to get possession of land. The monopoly of commerce is practically in the hands of Chinamen and natives of India, though in the large bazars of the District are to be found numbers of Burman silk- and cloth-dealers.

The main railway line connecting Rangoon with Mandalay runs through the heart of the District, making a parabolic curve eastward, with its vertex at Nyaunglebin. There are at present nineteen railway stations in the District. A railway from Pegu to Martaban is in process of construction. The road from Pegu to Rangoon runs almost parallel to the railway, but inclines more to the west, until it reaches the Prome road at Taukkyan, in Hanthawaddy District, where it turns south. The road to Toungoo in the north runs more or less parallel to the railway, and numerous cross and feeder roads connect the main lines of communication, such as the Dabein-Hlegu, the Nyaunglebin-Pazunmyaung, the Pegu-Thanatpin, and the Payāgyi-Payābyo roads. The most important highways are maintained from Provincial funds. Embankments are plentiful in the low-lying parts of the country. In the south-eastern portion of the District communications are far from perfect, for, with the exception of two short highways in the Kawa township, there are absolutely no means of reaching in the rains an enormous area which is being brought under cultivation west of the mouth of the Sittang, a great deal being new land formed from deposits swept by the river from the eastern or Thaton bank. The lengths of metalled and unmetalled roads are, respectively, 140 and 68 miles. Further means of communication are provided by the Pegu-Sittang Canal, which runs from Myitkyo on the Sittang to Tāwa on the Pegu river, and by a branch running through the Thanatpin lake into the old town moat of Pegu. Along this canal ply a number of launches.

Administration.

The District is divided into two subdivisions, Pegu and Nyaunglebin, of which the former consists of three townships, HLEGU, KAWA, and PAYĀGALE, and the latter of two, NYAUNGLEBIN and PYUNTAZĀ. The Nyaunglebin subdivision is ordinarily in charge of an Assistant Commissioner, while the Pegu subdivision and each of the five townships are administered by Extra-Assistant Commissioners or *myo-oks*. There are still eleven circle *thugyis* in the District, the remnant of the old revenue-collecting agency. These petty revenue officials have, however, for the most part been superseded by *ywathugyis* (village headmen). The village headmen number 531; and on their efforts in helping the police, collecting the revenue, and generally assisting District officers practically depends the success of the administration. Except where there is a circle *thugyi*, village headmen are paid by commission on the amount of revenue they collect, and they are also authorized to take fees in petty cases which they are empowered to decide. At head-

quarters are a treasury officer, an *akunwun* (in charge of the revenue), and a superintendent of land records, with a staff of 6 inspectors and 51 surveyors. The District forms a Public Works division, with subdivisional officers at Pegu, Nyaunglebin, and Thanatpin; it is also conterminous with the Pegu Forest division.

Till recently the administration of justice in the District, as in the Pegu and Irrawaddy Divisions generally, was in a transitional stage. The Commissioner was Sessions Judge and the Deputy-Commissioner was District Judge, but the greater part of their judicial work was done by Additional Judges. The Pegu and Toungoo Districts now, however, form the charge of a whole-time District Judge with head-quarters at Pegu, and Pegu with Hanthawaddy forms the charge of the Hanthawaddy Divisional and Sessions Judge, whose head-quarters are at Rangoon. There are no whole-time subdivisional judges; but the township courts of Hlegu and Kawa are presided over by a judge at Kawa, the Nyaunglebin and Pyuntazā township courts by a judge at Nyaunglebin, and the township court of Payāgale by a judge at Pegu, who also exercises Small Cause Court powers in Pegu town. As might be expected, where the country is so fast coming under cultivation, the majority of civil cases are brought on assignments of land. In spite of the elaborate precautions taken to prevent large areas from falling into the hands of adventurers and speculators, the annual statistics prove that the landlord class has obtained a firm hold. The large number of undefended suits is an index of the hopelessness of resistance to the mortgagee's claims, and on the survey maps it is easy to trace the huge holdings that have passed into the hands of cosmopolitan capitalists. Chinamen and Chettis, Chulias and Coringhis, generally clothed with an innocent *alias*, apply, and often successfully, for large grants of land, which others are hired to clear and cultivate. Thus, not only old, but large portions of new, land have already passed into the possession of absentee landlords.

Violent crime is not so common in Pegu as in the neighbouring Districts of Hanthawaddy and Tharrawaddy. Freedom from this form of criminality is said to be due to the fact that there are practically no toddy-trees in the District, and that liquor is not so readily procurable as in some localities. During the year 1902, with a population of nearly half a million, not a single murder was reported. Dacoity is rare, and in the cases that do occur the accused are often found to belong to other Districts. Cattle-theft is undoubtedly common, though the statistics compare favourably with those of the surrounding areas; but the presence of cattle-thieves is not surprising, when one considers the completely unprotected state in which cattle are allowed to roam for months at a time, before and after they are wanted for ploughing.

Up to 1883 Pegu formed part of Hanthawaddy (or Rangoon) District. The southern portion of the present District, including the whole of the Pegu subdivision and a further area subsequently transferred to Hanthawaddy, was cadastrally surveyed in the years 1881–3, and was brought under settlement in 1882–4. In 1895 the District boundaries were altered; Kyauktan and Thabyegan in the south were relinquished to Hanthawaddy, and the Pyuntazā (now called the Nyaunglebin) subdivision was added in the north. The settlement of the southern areas was for a period of fifteen years, and had therefore to be revised during 1898–1900. This resulted in a net increase in revenue of Rs. 3,00,000, or nearly 26 per cent. The northern subdivision, with the exception of the Bawni circle, was settled in the year 1897–8. The highest rate of land revenue at present paid is Rs. 4 per acre. This is levied in about 38 villages in the Kawa township, in the middle of the large plain east of the railway line, which is not reached by the tidal waters of the Sittang. In some of the circles which lie farther east, and in the Hlegu and Payāgale townships, the rates vary between Rs. 3–8 and Rs. 2, though in the newly cleared and hilly lands west of the railway line they are as low as Rs. 1–4. In the northern subdivision, too, the prevailing rates are between Rs. 2 and Rs. 3–8, but on the whole the average assessment there is lower, in consequence of the distance from the Rangoon market. The overflow of the Sittang and the vagaries of the hill streams, especially in the vicinity of Pyuntazā village, are responsible for the low rates fixed in some of the northern circles. It was originally intended that the Bawni circle, which lies in the township of Pyuntazā, should be settled along with the rest of the Nyaunglebin subdivision in the season 1897–8. Owing, however, to the extraordinarily rapid extension of cultivation, it was discovered that the cadastral maps were already out of date by the time the Settlement officer arrived, and it was decided to postpone the settlement till a resurvey had been effected. The rate assessed on garden land is generally Rs. 2–8 per acre in the southern subdivision, and Rs. 2 in the northern; but somewhat higher charges are made on land under tobacco, *dani* palm, or miscellaneous cultivation. The average assessment on land under cultivation of all kinds is a fraction over Rs. 2 per acre, and the average size of a holding is 26·6 acres.

The following table shows the growth of the revenue in recent years, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue	5,30	7,95	15,64	18,72
Total revenue	5,83	8,74	25,23	30,72

The other main items besides land revenue in 1903-4 were capitation tax (Rs. 3,49,000), excise (Rs. 4,14,000), and fisheries (Rs. 2,10,000).

The District cess fund, administered by the Deputy-Commissioner for the provision of various local needs, yielded an income of Rs. 2,39,000 in 1903-4; and the expenditure was Rs. 2,42,000, of which about half was devoted to public works. The only municipality in the District is PEGU, but NYAUNGLEBIN is administered by a town committee.

The police are under the control of the District Superintendent. Each subdivision is in charge of an Assistant Superintendent, and each township has an inspector. The subordinate civil police force consists of 8 head-constables, 40 sergeants, and 249 constables. The military police force numbers 3 native officers, 26 non-commissioned officers, and 196 sepoys, who are employed to escort prisoners and treasure and to patrol the District in the dry season. The number of headmen is 531, and these, with a large number of 'ten-house' *gaungs*, constitute the rural police. There are sixteen police stations and one outpost. Military police are posted at the subdivisional and township head-quarters, and at two other outlying police stations. There is no jail in the District. Convicts are sent to the Rangoon Central jail to serve out their sentences.

The proportion of literate persons is high. It amounted in 1901 to 45 per cent. in the case of males and 9.2 per cent. in the case of females, or 28.5 per cent. for both sexes together. The number of pupils was 8,740 in 1891, 16,446 in 1901, and 18,361 in 1903-4, of whom 3,705 were girls. In the last year there were 20 secondary, 281 primary, and 363 elementary (private) schools in the District. These figures include both lay and monastic seminaries. The public institutions are under the supervision of three deputy-inspectors of schools. The work of one of these is confined to the Karen schools. The Burman schools were till recently under the charge of a single deputy-inspector, but a second officer of this class has been appointed recently. The Karen schools form a considerable proportion of the total. The only institution worthy of special note is the Pegu municipal school. Local fund expenditure on education amounted, in 1903-4, to Rs. 43,800, of which Rs. 37,600 came from the District cess fund, and Rs. 6,200 from municipal funds. The Provincial expenditure was Rs. 5,100.

The District contains two hospitals with 52 beds, and three dispensaries. Excluding the figures for two of the latter, 24,316 cases were treated in 1903, of whom 2,120 were in-patients, and 1,121 operations were performed. Of a total income of Rs. 13,500, municipal funds provided Rs. 6,700, the District cess fund Rs. 1,500, and town funds Rs. 2,800.

Vaccination is compulsory only within municipal limits. In 1903-4 the number of successful vaccinations was 10,167, representing 30 per 1,000 of the population.

[H. Des Voeux, *Settlement Report* (1899); W. E. Lowry, *Settlement Reports* (1900 and 1901); W. V. Wallace, *Settlement Report* (1902).]

Pegu Subdivision.—Subdivision of Pegu District, Lower Burma, consisting of the HLEGU, KAWA, and PAYĀGALE townships.

Pegu Town.—Head-quarters of Pegu District, in the Pegu Division of Lower Burma, situated in 17° 20′ N. and 96° 29′ E., on the railway, 47 miles north-east of Rangoon. The town stands on the banks of a river bearing the same name, and partly on a ridge which forms the extremity of a long spur of the Pegu Yoma. Its population at each of the last four enumerations was: (1872) 4,416, (1881) 5,891, (1891) 10,762, and (1901) 14,132. Its increase during the past thirty years has been steady, though it seems probable that it will in the future owe its reputation rather to its antiquity and historical associations than to its commercial importance. The majority of the inhabitants are Buddhists. Pegu, doubtless, originally derived its importance from the fact that it was situated at the highest navigable point of a perennial river, which is easily reached from all points of the rich rice plain on the east, and which flows directly past Rangoon, the principal port of the country. In far distant times the rising ground where the town now stands was almost certainly situated on the sea-coast; and the legend goes that Hanthawaddy (a term originally applied to a considerable tract of country in the neighbourhood of Pegu) was the name given to the spot where the geese (*hintha*), like the ark on Mount Ararat, first settled after the retirement of the waters.

Pegu has for centuries been connected with the Talaings or Peguans, who from the commencement of the historical period till comparatively modern times were the dominant nationality in the southern portion of what is now Burma. Thaton was the earliest known Talaing capital. It is said to have been in A.D. 573 that the Peguans established themselves in Pegu. The town first became known to the outside world, however, in the days when the Toungoo dynasty of Burmese kings ruled in it. It is described by European travellers in the sixteenth century as of great size and magnificence. Cesare de' Federici, who visited it in the latter portion of the sixteenth century while it was the capital of the Toungoo kings, has given a detailed description of its glories. When Alaungpayā overran and conquered Pegu in the middle of the eighteenth century, he employed every means to efface all traces of Talaing nationality, destroying every house in the town and dispersing the inhabitants. His fifth son Bodawpayā, who succeeded in

1781, pursued a different policy, and in his time the seat of the local government was for some time transferred from Rangoon to Pegu. The town figured in both the first and second Burmese Wars. In the second War it was twice captured, and was the scene of a good deal of fighting.

The present town consists of two portions, the areas within and without the four walls by which the old town was encompassed. In general plan and configuration it may be compared more closely to Ava than to any of the other royal residences. On the top of the walls, which are about 40 feet wide, are built the residences of the European officials, and under the shade of the mango and other fruit trees which stud the slopes there is a delightful retreat from the surrounding heat and glare. Between the western face of the old fortifications and the river are the bazar and main portion of the native town, while in the centre of the enclosure, towering to a height of 324 feet, is the golden cone of the Shwemawdaw pagoda, one of the most remarkable buildings in Burma, and an object of greater veneration to the Talaings than even the Shwedagon pagoda at Rangoon. The shrine owes nothing to its site, but in symmetry of design and beauty of structure it is perhaps unrivalled. Along the roads in this part of the town are the principal Government buildings and private houses, the courthouses, municipal office, circuit-house, and school, while across the river stretches an iron double-girder bridge. This was originally intended for Akyab town, but fortunately for Pegu it was found too short for the purpose for which it was required there. Farther to the west, beyond the railway, and about a mile from the river, is a gigantic recumbent image of Buddha called the Shinbinthalyaung, one of the most interesting monuments in the Province.

The management of the town has, since 1883, been vested in a municipal committee. Between 1890 and 1900 the income of the municipality averaged Rs. 48,000 yearly. In 1903-4 it was Rs. 1,14,000. Fees from bazars and slaughter-houses yield about half of the receipts, while direct taxation, including levies on account of conservancy and lighting, produces nearly Rs. 20,000. The expenditure, which during the decade averaged Rs. 51,000, amounted to Rs. 1,01,000 in 1903-4. The chief objects on which money is expended are education (Rs. 4,000), conservancy (Rs. 16,000), public works (Rs. 22,000), hospital (Rs. 20,000), and general establishment (Rs. 8,000). The principal problems that the committee has to solve are the provision of a water-supply, the setting on foot of an adequate scheme of conservancy, and the improvement of the drainage system. The first of these is very difficult. The water of the river is not fit for drinking purposes, and that obtained from shallow wells, sunk in different places, has, on analysis, been found impregnated with noxious germs. An

attempt was made to form a reservoir in a portion of the old moat, and to this end several houses were expropriated from sites on its banks; but this scheme was doomed to failure, owing to the discovery of impurities in the moat water. The town, which has in many parts a subsoil of laterite, and slopes gently down to the banks of the river, has a good natural drainage, but this requires much artificial assistance in the congested portions near the bazar. The masonry drains at present existing are inadequate, and a considerable outlay will be needed for their extension and improvement.

The bazar claims notice as being the hive round which the native inhabitants swarm from the first break of dawn until long after midday. The main portion of the building consists of five sheds, with brick walls and shingle roof of little architectural value. It is perhaps due to their proximity to the river that these buildings have escaped for so many years destruction by fire. Next to the bazar the favourite rendezvous is the bank of the canal which has been constructed to join the main Sittang Canal near Thanatpin. The traffic along this waterway is so great that, in their efforts to crush competition and continue a monopoly, the principal launch-owners have even conveyed passengers without charge. In the carrying trade by steam-launch, by Chinese *sampan*, and by the long Chittagong boat, which is now so popular in the delta, the Burman has practically ceased to compete. The town possesses no industries of importance. Pottery and silver-work are turned out, and two small rice-mills are at work. By no means the least important institution in the town is the hospital, with 36 beds. It is built in three blocks, one for the public generally, a second for the offices and storerooms, and a third for members of the military police.

Pegu River.—River of Burma, rising in the north-west corner of Pegu District on the eastern slopes of the Pegu Yoma, and flowing into the RANGOON RIVER immediately east of the city of Rangoon, about 180 miles from its source. For the first two-thirds of its course it runs in a south-easterly, and for the last third in a south-westerly direction. The only town of importance on its banks is Pegu, one of the ancient capitals of the Talaing kingdom, now the head-quarters of a District, where the stream is crossed by a substantial iron bridge. Below Pegu the river is connected with the Sittang river on the east by the Pegu-Sittang Canal, a navigation channel constructed to facilitate communication between Rangoon and the Sittang. From Pegu to Rangoon the stream flows through a dead level in a winding channel of no great breadth. At its mouth the river is about a mile wide. Here it separates the eastern portion of the city of Rangoon from Syriam, which was once famous as a trading centre and has of late shown signs of regaining a portion of its lost commercial importance.

The Pegu river is navigable for light-draught steamers as high as Pegu during the rainy season.

Pegu-Sittang Canal.—A navigable canal in Pegu District, Lower Burma, running generally north-east and south-west and connecting the PEGU and SITTANG rivers. The canal was originally begun in 1873–4, and consisted in the first instance of the length from Tāwa, a few miles due south of the town of Pegu, to a village called Minywa. This section joined the Paingkyun and Kyasu creeks; and, as the former flows into the Pegu river and the latter into the Sittang, these rivers were thus connected. In 1878 a lock was built at Tāwa, while the Kyasu creek was closed and the canal was extended to Myitkyo, a village in Pegu District on the Sittang, where another lock was built. A branch running from Pegu south-eastwards into the main canal at Pagannyaungbin was dug in 1883. The length of the canal from Tāwa to Myitkyo is 38 miles, and the length of the branch is 8 miles. Tolls are levied for the use of the canal by boats or rafts, yielding about a lakh in 1903–4. The total capital expenditure on the work has been about 44 lakhs. A lock at Minywa, 14½ miles from Tāwa, is under construction, which, when completed, will establish communication with the Sittang 47 miles below Myitkyo. In the construction of the canal advantage was taken of the numerous natural channels which existed. The canal is consequently very irregular in trace and in bed-width. There are four escapes, at Kyaikpadaing, at Pagannyaungbin, at Minywa, and at Abya. The canal is protected from the floods of the Sittang by the Pagaing embankment, which extends from Myitkyo to Tāzon, and from the floods of the Pegu river by the Pegu river embankment. A third barrier, from Zwebat to Moyingyi on the Pagaing embankment, forms a reservoir which will serve to feed the canal in the dry season. The Pagaing embankment incidentally renders cultivation of a large area of land possible, and the Zwebat-Moyingyi embankment will bring further areas under the plough.

Pegu Yoma.—A chain of hills in Burma, to the east of the Irrawaddy, running north and south and forming the watershed between the Irrawaddy and the Sittang, from about 17° 20′ to 20° N. Like the last-named river, its northern end is situated in the District of Yamethin and its southerly limit lies a little to the north of Rangoon; in fact it may be said to extend, in the shape of undulating ridges, into Rangoon itself, one of its final mounds being crowned by the great golden Shwedagon pagoda, which lies to the north of the city. The total length of the chain is about 200 miles; and its crests separate the Districts of Magwe, Thayetmyo, Prome, Tharrawaddy, and Hanthawaddy on the west from those of Yamethin, Toungoo, and Pegu on the east. From its eastern slopes flow the Pegu

river and several of the tributaries of the Sittang, while to the west it sends down no stream of importance, but its more southerly hills hold the springs of the various watercourses that swell the volume of the Myitmakā or Hlaing river, upon the banks of which Rangoon is built. The Yoma is of no great height, its loftiest peak being only about 2,000 feet above the level of the sea, but it is steep and rugged. Its geological structure is simple. The beds composing it have been thrown into gentle broad synclines and anticlines, and their sands and shales probably overlie conformably the Nummulitics on the eastern slopes of the ARAKAN YOMA. A portion of the range is no doubt of miocene age, but it is probable that representatives of other geological groups are present in it. The forests are rich in teak and other valuable timber, the bulk of which is floated down the Myitmakā to Rangoon. The inhabitants of the Yoma are for the most part Karens; but in the north, on the borders of Prome, Magwe, Toungoo, and Thayetmyo Districts, there are a few villages of Chins, the only known representatives of the race in any strength to the east of the Irrawaddy. They appear to have come from the Arakan Yoma, but the date of their migration is doubtful.

Pehowa.—Ancient town and place of pilgrimage in the Kaithal *tahsīl* of Karnāl District, Punjab, situated in 29° 59′ N. and 76° 35′ E., on the sacred Saraswatī river, 16 miles west of Thānesar. It lies in KURUKSHETRA, and its name is a corruption of the Sanskrit Prithūdaka, the 'pool of Prithu,' the son of Rājā Vena. Two inscriptions dating from the end of the ninth century A.D., found at Pehowa, show that it was then included in the dominions of Bhoja and his son Mehendrapāla, kings of Kanauj. The more important inscription records the erection of a triple temple to Vishnu by a Tomar family; but no traces of ancient buildings remain, the modern shrines having been erected within the last century. After the rise of the Sikhs to power Pehowa came into the possession of the Bhais of Kaithal, whose palace is now used as a resthouse; but with Kaithal it lapsed to the British Government, and has since lost its importance, the population having decreased from 3,408 in 1881 to 2,080 in 1901. It is still, however, a place of pilgrimage; and close to it are the temples of Pirthūdakeshwar or Pirthūveshwar, built by the Marāthās during their supremacy in honour of the goddess Saraswatī (Sarsūti) and of Swāmi Kārtik. The latter is said to have been originally founded before the war of the Mahābhārata in honour of the war-god Kartaya. The town has a dispensary.

Peikthano (or Paikthado).—Ancient capital in Upper Burma. *See* MAGWE DISTRICT.

Peint.—Formerly a Native State, and now a *tāluka* of Nāsik District, Bombay, lying between 20° 1′ and 20° 32′ N. and 73° 15′ and

73° 39′ E., with an area of 432 square miles. There are 227 villages, but no town. The head-quarters are at Peint. The population in 1901 was 53,392, compared with 59,601 in 1891. The density, 124 persons per square mile, is below the District average. The demand for land revenue in 1903–4 was Rs. 37,000, and for cesses Rs. 2,500. In both climate and appearance the *tāluka* resembles the Konkan. A maze of hill and valley, except for some rice-fields and patches of rough hill-side cultivation, Peint is covered over its whole area with timber, brushwood, and grass. Towards the north, a prominent range of hills passing westwards at right angles to the main line of the Western Ghāts gives a distinct character to the landscape. But over the rest of the country ranges of small hills starting up on all sides crowd together in the wildest confusion, with a general south-westerly direction, to within 20 miles of the sea-coast, and divide the valleys of the Damān and Pār rivers. The heavy rainfall, which averages 87 inches annually, the thick forest vegetation, great variations of temperature, and a certain heaviness of the atmosphere combine to make the tract unhealthy. The prevailing diseases are fever and ague. The population consists almost entirely of forest and hill tribes, nominally Hindus, poor and ignorant, unsettled in their habits, and much given to the use of intoxicating spirits. Their language is a corrupt Marāthī, with a large mixture of Gujarātī words. A large part of Peint is well suited for grazing, and considerable numbers of cattle and sheep are exported. The chief products are timber of various kinds (including bamboos), rice, *nāchni*, oilseeds, beeswax, honey, stag-horn, and hides.

The ruling family, by descent Rājputs of the Puār tribe, adopted many generations back the family name of Dalvi. A branch of the family embraced Islām in the time of Aurangzeb. During the Marāthā supremacy the Peint estates were for a long period placed under attachment by the Peshwās. In reward for services rendered in 1818, the family were reinstated in their former position by the British Government. The last chief, Abdul Momin *alias* Lakshadir Dalpat Rao III, died in 1837, leaving only a legitimate daughter, Begam Nūr Jahān. The State was placed under British management on the death of the last male chief, but the Begam was allowed a life pension of Rs. 6,000 a year, in addition to one-third of the surplus revenues of the State. On her death in 1878, the State finally lapsed to the British Government. Harsul, the former place of residence of the Begam, is situated in 20° 9′ N. and 73° 30′ E.

Pempa La.—Pass in the State of Bhutān, situated in 27° 39′ N. and 89° 15′ E.

Pen Tāluka.—North-eastern *tāluka* of Kolāba District, Bombay, lying between 18° 28′ and 18° 50′ N. and 73° and 73° 22′ E., with

an area of 293 square miles, including the petty subdivision (*petha*) of Nāgothana. It contains one town, PEN (population, 9,229), its head-quarters; and 198 villages. The population in 1901 was 76,559, compared with 74,516 in 1891. The density, 261 persons per square mile, is below the District average. The demand for land revenue in 1903-4 was 1·22 lakhs, and for cesses Rs. 8,000. The chief river is the Ambā, of which the water is sweet and drinkable from June until September. The prevailing soils are reddish and black. A large area of tidal swamp is used as salt-pans. The climate is generally healthy. The annual rainfall averages 121 inches.

Pen Town.—Head-quarters of the *tāluka* of the same name in Kolāba District, Bombay, situated in 18° 44′ N. and 73° 6′ E., 16 miles east-by-north of Alībāg. Population (1901), 9,229. It has been a municipality since 1865, having an average income during the decade ending 1901 of Rs. 14,000. In 1903-4 the income was Rs. 15,500. Pen is connected with the Deccan by the Konkan road and the Bor Pass. Steamers from Bombay call daily at Dharamtar ferry on the Ambā river, 5 miles distant; and cargo boats up to 50 tons burden come to Antora or Pen *bandar*, a mile and a half distant, at spring tides. The neap tide port, Bāng *bandar*, is 4 miles below Pen. In 1903-4 the exports amounted to 3·21 lakhs and the imports to 3·70 lakhs. Pen is one of the two ports forming the Sakse (Sānkshi) customs division. The water-works were constructed in 1876 at a cost of Rs. 28,000. Pen contains a dispensary, a middle school, and five other schools.

Pendhat.—Village in the Mustafābād *tahsīl* of Mainpurī District, United Provinces, situated in 27° 21′ N. and 78° 36′ E., 29 miles north-west of Mainpurī town. Population (1901), 2,423. It is noted for the worship of Jokhaiyā, a deity believed by the lower classes in the Doāb to have great powers. Jokhaiyā was a Bhangī, who, according to tradition, fell in the war between Prithwī Rāj of Delhi and Jai Chand of Kanauj. The shrine is visited annually by thousands of pilgrims in the hope of obtaining offspring or an easy childbirth.

Pendur.—Town in the Mālvan *tāluka* of Ratnāgiri District, Bombay, situated in 16° 3′ N. and 73° 42′ E. Population (1901), 5,364.

Pengangā.—River of Berār, having its source in the hills beyond Deūlghāt, on the western border of Buldāna District, in 20° 31′ N. and 76° 2′ E. After flowing in a south-easterly direction through this District and a portion of Akola, it forms the southern boundary of Berār, joining the Wardha which forms the eastern boundary of the province, at Jugād, in the south-eastern corner of Yeotmāl District (19° 52′ N. and 79° 11′ E.). The course of the Pengangā, from its source to the point where it joins the Wardhā, exceeds 200

miles in length; and its principal tributaries are the Pūs, the Arna and Arān, which unite before they flow into it, the Chandrabhāga, the Wāghāri, which displays on its banks a curious laminated formation of Purāna sandstone, and the Vaidarbha, which is the adjectival form of the name of the old kingdom of heroic times. All these tributaries flow into the Pengangā from the north.

Pennahobilam.—Village in the Gooty *tāluk* of Anantapur District, Madras, situated in 14° 52′ N. and 77° 19′ E. Population (1901), only three persons. It stands on the bank of the Penner river just where this turns eastwards for the first time. The channel at this point is narrow and rocky. The village is a sacred place of pilgrimage, as it contains a famous temple to Narasimha, the man-lion incarnation of Vishnu. This building is not architecturally remarkable, much of it being made only of plaster; but it is most picturesquely situated on rising ground among fine trees, under which stand a crowd of buildings for the accommodation of pilgrims.

Penner (*Uttara Pinākini* or Northern Pennār).—River of Southern India which rises on Channarāyan-betta, to the north-west of Nandidroog in the Kolār District of Mysore, and running north-west past Goribidnūr, enters the Anantapur District of Madras, at one point again crossing Mysore in a projecting part of the Pāvugada *tāluk* (Tumkūr District). Some distance north of Anantapur it turns to the east, and passing through Cuddapah and Nellore Districts, falls into the sea below Nellore town. Its tributaries from Mysore are the Jayamangali, Chitrāvati, and Pāpaghni.

In Anantapur District the Penner runs for the most part in a wide and sandy bed. It comes down in sudden freshes (generally in October and November) for two or three days at a time, and then as quickly dries up again. In Cuddapah it is joined on its right bank by the Chitrāvati, and the two streams have forced a passage for themselves through the picturesque gorge of GANDIKOTA, about a mile long and 300 feet deep. Lower down the Pāpaghni flows into it, and thereafter, as it winds through the Eastern Ghāts, its course again becomes wild and beautiful.

The river enters Nellore District through a narrow gap in the Ghāts near Somasila, and thenceforward is for the first time rendered useful for irrigation. From Somasila to Sangam, a distance of 25 miles, it waters about 5,000 acres from inundation channels. At Sangam it is crossed by a dam, built in 1886, which is 4,072 feet long. On the left bank of the river this dam supplies the great Kanigiri reservoir, and thus irrigates 86,000 acres; and a channel is being constructed from it on the right bank, which will fill the Nellore reservoir and water 10,000 more. Lower down the river, at Nellore town, a dam constructed in 1855 was repaired and brought into its present shape

in the temple. The *dargāh* is now a great place of pilgrimage for Musalmāns and the centre of an organization of *fakīrs* which extends throughout the Presidency.

The chief Hindu building in Penukonda is the Gagana Mahal or palace. It is a handsome two-storeyed erection, possessing a tower from which a good view of the town is obtained. It is built in the same Hindu-Saracenic style which was also adopted in the palace buildings at Vijayanagar.

Penukonda now contains the offices usual to the head-quarters of a subdivision and a *tāluk*, and is the station of a District Munsif. It is also of some importance from a commercial point of view, and takes the lead in all intellectual matters in the south of the District.

Perambākkam.—Village in the Conjeeveram *tāluk* of Chingleput District, Madras, situated in 12° 51′ N. and 79° 35′ E., about 14 miles north-west of Conjeeveram town. Population (1901), 1,117. Near here occurred, in 1780, the defeat of Colonel Baillie's force by Haidar Alī, one of the most severe reverses that ever befell the British arms in India. Sir Hector Munro, the Madras Commander-in-Chief, had directed Baillie, who had 2,800 men with him, to meet him at Conjeeveram. Haidar received intelligence of the plan and set out to intercept the force. Baillie thereupon sent to Sir Hector for reinforcements, and a detachment was dispatched to him which increased his strength to 3,700 men. Baillie, however, delayed too long in setting out, and was caught by the whole of Haidar's army in a defile studded with palmyra palms. Here his force was subjected to a cross-fire from fifty guns. Baillie and most of his officers were soon wounded, and eventually the blowing up of two tumbrils of gunpowder in the middle of the square in which the troops were formed started a panic. The British, however, concentrated the small remnant of their men on a little eminence, and repulsed thirteen attacks of the enemy during another hour and a half. Baillie then surrendered, and indiscriminate slaughter of the prisoners was prevented by French officers serving in Haidar's army. In the Daryā Daulat, Haidar's garden-house on the island of Seringapatam, is a fresco depicting this defeat in quaint native fashion, an exploding tumbril being given a prominent place in the composition. This has been renovated and is in excellent preservation.

[A full account of the battle is to be found in *Lives of the Lindsays* (vol. iii, pp. 250–60), contributed by the Hon. John Lindsay, who was one of those taken prisoners to Seringapatam.]

Perambalūr.—Northern *tāluk* of Trichinopoly District, Madras, lying between 10° 55′ and 11° 32′ N. and 78° 40′ and 79° 10′ E., to the south of the Vellār river, with an area of 674 square miles. The head-quarters are at the village of the same name. The population in

1901 was 204,257, compared with 195,006 in 1891. The number of villages is 128. The demand for land revenue and cesses in 1903–4 amounted to Rs. 4,01,000. The general aspect of the *tāluk* is flat, except in the north-west, where the Pachaimalais, which separate it from Musiri, run for a short distance into it. From these hills, up to and along the banks of the Vellār, stretches a continuous plain of black cotton soil in which are large tracts of stiff black clay. In the southern portion the country is rocky, and the soil as a rule poor. Channels from the Vellār and its two affluents the Kallār and Chinnār irrigate a part of the *tāluk*, but otherwise the irrigated crops depend upon tanks and wells. The annual rainfall is usually the highest in the District, averaging 39 inches. The area still available for cultivation is large, being nearly two-fifths of the total unoccupied area in the District.

Perambūr.—Suburb of MADRAS CITY.

Periakulam.—*Tāluk* and town in Madura District, Madras. *See* PERIYAKULAM.

Periapatam.—Village in Mysore District, Mysore. *See* PIRIYĀPATNA.

Perim (1).—Island in Ahmadābād District, Bombay. *See* PIRAM.

Perim (2).—Island in the narrowest part of the Straits of Bāb-el-Mandeb, situated in 12° 40′ N. and 43° 23′ E., distant from the Arabian coast nearly 1½ miles, and from the African coast 11 miles; greatest length, 3½ miles; average width, about 1¼ miles; circumference (following the sinuosities of the coast-line), probably more than 30 miles; area, 5 square miles. The island is administered along with Aden; and the following account of it is taken from Captain F. M. Hunter's *Statistical Account of Aden* (1877), pp. 171–2:—

'Perim is called by the author of the *Periplus* the island of Diodorus, and is known among the Arabs as Mayoon. The formation is purely volcanic, and consists of long, low, and gradually sloping ranges of hills, surrounding a capacious harbour, about a mile and a half in length, half a mile in breadth, and with a varying depth of from 4 to 6 fathoms in the best anchorages. The hills were formerly intersected by bays and indentations, which in the course of time have been filled up with coral and sand, and are now low plains, scantily covered with salsola, sea-lavender, wild mignonette, and other plants which delight in a soft sandy soil. These plains occupy about one-fourth of the island, and occur principally on the north side. The rocks, which are all igneous, are nowhere exposed, save where they dip perpendicularly into the sea; they are covered with a layer of volcanic mud of from two to six feet in depth, above which is another layer of loose boulders, or masses of black vesicular lava, in some places so thickly set as to resemble a rude pavement. The highest point of the island is 245 feet above the level of the sea. All endeavours to find water have failed, and but a scanty supply is procurable from the adjacent coasts. Water-tanks were constructed, which used to be chiefly supplied from Aden,

and it was proposed to erect reservoirs to collect the rain; but, as at Aden, a condensing apparatus was found more suitable.

'Perim has never been permanently occupied by any nation save the British. Albuquerque landed upon it in 1513 on his return from the Red Sea, and, having erected a high cross on an eminence, called the island Vera Cruz. It was again occupied for a short time by the pirates who frequented the mouth of the Red Sea, and who amassed considerable booty by plundering the native vessels engaged in the Indian trade. They formed a project of settling here and erecting strong fortifications; but having with much labour dug through the solid rock to a depth of fifteen fathoms in a fruitless search for water, they abandoned their design, and removed to Mary's Island, on the east side of Madagascar.

'In 1799 Perim was taken possession of by the East India Company; and a force under Lieutenant-Colonel Murray was sent from Bombay to garrison it, with the view of preventing the French troops, then engaged in the occupation of Egypt, from proceeding to India to effect a junction with Tipū Sultān. But it was deemed untenable as a military position, and the Straits were too broad to be commanded by any batteries on the shore; the troops were accordingly withdrawn.

'In consequence of increasing steam navigation in the Red Sea, the attention of the Indian Government was directed to the necessity of a lighthouse to facilitate the navigation of the Straits. Perim was consequently reoccupied in the beginning of 1857. The lighthouse was completed in 1861, and quarters were also built for a detachment of native infantry, 50 strong, who garrison the island. The detachment is relieved every two months when practicable.'

The garrison is still maintained on the island, which has a population (1901) of 1,236, and is provided with a police force of 10 men. The island contains a coal dépôt, a condenser producing annually 170,000 gallons of water, and two lighthouses. An Assistant Resident with first-class magisterial powers is stationed here.

[J. S. King, *Description and History of the British Outpost of Perim* (1887).]

Periyakulam Tāluk.—*Tāluk* in the Dindigul subdivision of Madura District, Madras, lying in the south-west corner of the District, between 9° 32′ and 10° 15′ N. and 77° 11′ and 77° 51′ E., with an area of 1,520 square miles. The population in 1901 was 320,098, compared with 263,253 in 1891. The *tāluk* contains three towns, PERIYAKULAM (population, 17,960), the head-quarters, BODINĀYAKKANŪR (22,209), and UTTAMAPĀLAIYAM (10,009); and 83 villages. The demand for land revenue and cesses in 1903-4 amounted to Rs. 3,75,000, and *peshkash* from *zamīndāri* estates to Rs. 32,000. The *tāluk*, compared with other parts of the District, is sparsely populated. Through it flow the Vaigai and Suruli rivers, the latter of which receives the water of the Periyār Project, and the tributary rivers Teni and Varāhanadī. On three sides it is hemmed in by hills—on the west by the

Western Ghāts, on the north by the Palni Hills, and on the south by the smaller Andipatti range. A large valley running up into the Western Ghāts, known as the Kambam Valley, is one of the pleasantest parts of the District.

Periyakulam Town.—Head-quarters of the *tāluk* of the same name in Madura District, Madras, situated in 10° 7′ N. and 77° 33′ E., on the banks of the Varāhanadī, about 45 miles west of Madura city and 35 miles south-west of Dindigul. Population (1901), 17,960. The town was created a municipality in 1886. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 15,600 and Rs. 15,400 respectively. In 1903–4 the income, most of which was derived from tolls and the taxes on land and houses, was Rs. 19,800; and the expenditure was Rs. 20,500. A scheme for supplying water is under consideration. The town is an important centre for the trade of the Kambam Valley, and, being distant only 5 miles from the foot of the *ghāt* by which the ascent is made to Kodaikānal, has a considerable trade in grain and fruit with that place and the adjoining hill villages.

Periyār Project, The.—The Periyār ('big river') is a river of Southern India which rises on the western side of the range of the Western Ghāts, and flows down to the Arabian Sea through the Native State of Travancore. The area through which it passes is within the zone of the heaviest rainfall in the south of India, and the crops there are grown by the aid of rain alone and without irrigation. Consequently the water of the Periyār ran uselessly to the sea. The great project to which the river has given its name consists in the construction of a huge masonry dam across the upper waters of the river, in Travancore territory, forming a great lake, and taking the water of this lake through a tunnel in the Western Ghāts across to the opposite, or eastern, slope of that range to supply the arid areas which lie immediately below it on that side. In short, a great river which formerly ran down one side of a mountain range has been bidden to turn back and flow down the other side of it. The lake has an area of 8,000 acres in Travancore territory, which land has been rented from that State for Rs. 40,000 per annum. The height of the dam, which is situated in 9° 32′ N. and 77° 7′ E., is 173 feet, and it is made of solid masonry throughout. The tunnel through the Ghāts is 5,704 feet long, and the open cutting or debouchure on the northern side which leads to it from the lake adds 500 feet to its length. The tunnel proper has an entrance sluice 12 feet wide by 7½ feet high and a gradient of 1 in 75, and is drilled through hard granite. The bed of the Vaigai river is utilized for some distance to carry the water to places where it is wanted, and the scheme includes in addition 36 miles of main

canal and 190 miles of distributaries. Up to 1904 the total capital cost of the Project had been 92 lakhs.

The scheme was suggested as early as the commencement of last century, but was at first thought to be chimerical. It was revived in 1862, but it was not until 1882 that a beginning was seriously made with the preparation of estimates for the Project. The success of the work was mainly due to the efforts of Colonel Pennycuick, R.E., C.I.E., Chief Engineer to the Madras Government. It was carried to completion in the face of enormous difficulties, the country being entirely uninhabited and most inaccessible, the climate infected with deadly malaria, the difficulty of getting labour and transport immense; and many of the technical problems involved in the work were of an entirely new description. The foundations of the dam were carried away time after time before they had proceeded sufficiently to be out of the reach of floods, and unforeseen difficulties and trials had constantly to be met and overcome. The official *History* of the Project, by Mr. A. T. Mackenzie, one of the staff of engineers who carried it to completion, gives a full account of the undertaking and the manner in which it was effected.

It is too soon as yet to judge of the financial result of the Project, as the whole of the land commanded has not yet been prepared for 'wet' cultivation by the ryots and so cannot be supplied with water. At the end of 1903–4 the total area of land irrigated, including second-crop cultivation, was 142,000 acres, and the net revenue was Rs. 3,55,000, giving a profit of 3·86 per cent. on the capital outlay. The total cultivable area commanded by the main canal and its twelve branches is 121,000 acres, including land of all classes. The supply available is probably sufficient for only about 111,000 acres; and the most important problem that now remains is concerned with the extension of the system, by forming a second reservoir in which to store the surplus water which still runs to waste.

Peruah.—Ruins in Mālda District, Eastern Bengal and Assam. *See* PANDUA.

Perūr.—Village in the District and *tāluk* of Coimbatore, Madras, situated in 10° 58′ N. and 76° 56′ E., 4 miles from Coimbatore city. Population (1901), 1,636. It is sometimes called Chidambaram, the prefix *Mel* (western) being added to distinguish it from *Kīl* (eastern) Chidambaram in South Arcot. It contains a remarkable Hindu temple of great sanctity, which enjoys the distinction, shared by few others, that Tipū spared both its buildings and its lands. Fergusson considers[1] the date of the erection to be about the beginning of the eighteenth century, as a figure of a soldier carrying a matchlock is sculptured in the porch in front of the shrine, and his costume and

[1] *History of Indian Architecture* (1876), pp. 370–2.

the shape of his weapon are exactly those found in contemporary pictures of the wars of Aurangzeb or the early Marāthās. He thinks that its completion was probably interrupted by the Musalmān usurpation in Mysore. The inner shrine is no doubt much older, as Perūr is a place of ancient sanctity. The modern portion of the temple is richly sculptured, but in a coarse and clumsy fashion in rough material. For this reason the effect is disappointing, though the labour bestowed upon the building must have been immense. The priests declare that the principal portion of the temple was built by Alagādri Naik, brother-in-law of Tirumala Naik of Madura (1623–59). An annual festival in the Tamil month of Mārgali (December–January) is very largely attended by the people of this District and of Malabar.

Peshāwar District.—District in the North-West Frontier Province, and the most north-western of the regularly administered Districts in the Indian Empire. It lies between 33° 43′ and 34° 32′ N. and 71° 22′ and 72° 45′ E., with an area of 2,611 square miles. It is bounded on the east by the Indus, which separates it from the Punjab District of Attock and from Hazāra. On all other sides it is encircled by mountains, at the foot of which, except on the south-east, the administrative border runs. These hills are inhabited by independent tribes, whose territories lie in the following order, beginning from the north-east corner, where the boundary leaves the river. The Utmanzai, Gadun, Khudu Khel, and Salarzai clans are *hamsāyas* of the Bunerwāls; north of Mardān lies a small piece of Utman Khel country, west of which is Sam Rānizai sloping up to the Malakand pass; beyond Sam Rānizai comes the main Utman Khel country, which stretches as far as Abāzai on the Swāt river; the country between the Swāt and Kābul rivers belongs to the Burhān Khel, Halimzai, and Ṭarakzai Mohmands; from the Kābul river to Jamrūd at the mouth of the Khyber Pass is Mullagori country; the hills between the Khyber and the Kohāt Pass are the abode of the Malikdīn and Akā Khel Afrīdis; on both sides of the Kohāt Pass live the tribes known as the Pass Afrīdis, beyond whom on the south side of the District live the Jowakis, whose territory runs nearly as far as Cherāt. East of Cherāt the range is inhabited by Khattaks, and forms, except for the Khwarra and Zira forest on the banks of the Indus, part of Kohāt District.

Physical aspects.

To the north-east great spurs, separated by intricate lateral valleys, run into the District, the Mora, Shākot, and Malakand passes leading through them into Swāt. From the north-west outlying ranges of the Hindu Kush run down the western border, loftily isolated peaks to the north merging in the confused and precipitous heights on the south bank of the Kābul river. South of the Khyber, the range sinks to a mean level of 4,000 feet, and at the point where the Kohāt pass leads out of the

District turns sharp to the east, and runs along the south border of the District to the Indus. On this side the highest points are Cherāt, with an elevation of nearly 4,500 feet, and the Ghaibāna Sir, 5,136 feet above sea-level. The shape of the District is an almost perfect ellipse, the greatest length of which is 86 miles, its greatest width being 54 miles.

Viewed from a height it appears a vast plateau, whose vivid expanse of green is in abrupt contrast with the grey precipitous slopes of the hills which rise sharply from its edge; but its true formation is that of a huge basin into which flow the waters from the surrounding hills. This basin is drained by the Kābul river, which traverses the valley eastwards from its debouchure through a deep ravine north of the Khyber Pass until it falls into the Indus above Attock. Throughout its course the Kābul is joined by countless tributaries, of which the principal is the Swāt; and before they unite below Prāng (Chārsadda), about 24 miles from the hills, these two rivers cover the central part of the western plain with a perfect network of streams, as each divides into several channels. The Bārā, flowing from the south-west, also enters the Kābul near its junction with the Swāt; and the united stream, now known as the Landai, or 'short river,' flows for 12 miles in a wide bed as far as Naushahra, and thence for 24 miles in a deep channel to the Indus. Other streams are the Budni, a branch of the Kābul; and the Kalpānī or Chalpānī, the 'deceitful water,' which, rising beyond the Mora pass, receives the drainage of the Yūsufzai plain and falls into the Landai below Naushahra.

Peshāwar has not been geologically surveyed, but the general structure of the District appears to be a continuation westwards of that of Hazāra. Judging from partial traverses and from information of various kinds, one may say that its northern portions, including the hills on the northern border, are composed, like Hazāra, of metamorphic schists and gneissose rocks. Much of the flat plain of Peshāwar and Naushahra and the northern slopes of the Cherāt hills consist of a great slate series with minor limestone and marble bands, some of which are worked for ornamental purposes. South of the axis of the Cherāt range, the rest of the District is apparently composed of a medley of folded representatives of Jurassic, Cretaceous, and Nummulitic formations. They consist of limestones, shales, and sandstones of marine origin, the general strike of the rock bands being east and west across the Indus in the direction of Hazāra and Rāwalpindi. Much of the valley of Peshāwar is covered with surface gravels and alluvium, the deposit of the streams joining the Kābul river on its way to the Indus[1].

[1] W. Waagen, 'Section along the Indus from the Peshāwar Valley to the Salt Range,' *Records, Geological Survey of India*, vol. xvii, pt. iii.

The District, wherever irrigated, abounds in trees, of which the mulberry, *shīsham*, willow, tamarisk, and tallow-tree are the most common. In the drier parts scrub jungle grows freely, but trees are scarce, the *palosi* or *ber* being the most frequent. The more common plants are *Flacourtia sapida*, *F. sepiaria*, several species of *Grewia*, *Zizyphus nummularia*, *Acacia Jacquemontii*, *A. leucophloea*, *Alhagi camelorum*, *Crotalaria Burhia*, *Prosopis spicigera*, several species of *Tamarix*, *Nerium odorum*, *Rhazya stricta*, *Calotropis procera*, *Periploca aphylla*, *Tecoma undulata*, *Lycium europaeum*, *Withania coagulans*, *W. somnifera*, *Nannorhops Ritchieana*, *Fagonia*, *Tribulus*, *Peganum Harmala*, *Calligonum polygonoides*, *Polygonum aviculare*, *P. plebejum*, *Rumex vesicarius*, *Chrozophora plicata*, species of *Aristida*, *Anthistiria*, *Cenchrus*, and *Pennisetum*.

The fauna is meagre. *Mārkhor* are found on the Pajja spurs which jut out from the hills north of Mardān, and occasionally near Cherāt, where *uriāl* are also seen. Wolves and hyenas are now not numerous, but leopards are still met with, though rarely. The game-birds are those of the Northern Punjab; and though hawking and snaring are favourite amusements of the people and many possess firearms, wild-fowl of all the migratory aquatic species, including sometimes wild swans, abound in the winter. Non-migratory species are decreasing as cultivation extends. The Peshāwar Vale Hunt maintains an excellent pack of hounds, the only one in Northern India, and affords capital sport to the large garrison of Peshāwar. There is fishing in many of the streams near the hills.

The best time of the year is the spring, February to April being the months when the air, though cold, is bracing. December and January are the coldest months, when the temperature sometimes falls below 30° and the nights are intensely cold. During the hot season, from May to July, the air is full of dust-haze. Dust-storms are frequent, but, though thunderstorms occur on the surrounding hills, rain seldom falls in the plains. This season is, however, healthy, in contrast to the next months, August to October, when the hot-season rains fall and the air is stagnant and oppressive. After a fall of rain the atmosphere becomes steamy and fever is common. In November the days are hot owing to the clear atmosphere, but the nights are cold. Showers are usual during winter. Inflammatory diseases of the lungs and bowels and malarial fever are prevalent at this season. The principal disease from which the valley, and especially the western half of it, suffers is malarial fever, which in years of heavy rainfall assumes a very deadly form, death often supervening in a few hours.

The annual rainfall varies from 11 inches at Chārsadda to 17½ at Mardān. Of the total at Mardān, 11 inches fall in the summer and 6½ in the winter. The heaviest rainfall during the last twenty years

was 35 inches at Mardān in 1882-3, and the lightest 3 inches at Kātlang in 1883-4.

History.

The ancient Hindu name for the valley of Peshāwar as it appears in Sanskrit literature is GANDHĀRA, corresponding to the Gandarites of Strabo and the country of the Gandarae described by Ptolemy, though Arrian speaks of the people who held the valley against Alexander as Assakenoi. Its capital, Peukelaotis (or Pushkalāvati), is mentioned by Arrian as a large and populous city, captured by Hephaistion, the general of Alexander, after the death of its chieftain Astes. The site of Pushkalāvati has been identified with Chārsadda, where extensive mounds of ancient débris are still to be seen. The Peshāwar and Kābul valleys were ceded by Seleucus to Chandragupta in 303 B.C., and the rock edicts of Asoka at Mānsehra and Shāhbāzgarhi show that Buddhism had become the state religion fifty years later. The Peshāwar valley was annexed by the Graeco-Bactrian king Eucratides in the second century, and about the beginning of the Christian era fell under the rule of the Kushans. It is to the intercourse between the Greeks and the Buddhists of this part of India that we owe the school of art known as Graeco-Buddhist, which in turn served as the source of much that is fundamental in the ecclesiastical art of Tibet, China, and Farther Asia generally. For it was in this District that the Mahāyāna school of Buddhism arose, and from it that it spread over the Asiatic continent. Buddhism was still the dominant religion when Fa Hian passed through in the fifth century A.D. Sung Yun, who visited Peshāwar in 520, mentions that the Ephthalite king of Gandhāra was at war with the king of Kābul; but at the time of Hiuen Tsiang's visit in 630 Gandhāra was a dependency of Kābul. Buddhism was then falling into decay.

Until the middle of the seventh century, epigraphic evidence shows that the population remained entirely Indian, and Hinduized rulers of Indo-Scythian and Turkish descent retained possession of Peshāwar itself and of the Hashtnagar and Yūsufzai plains. They were succeeded by the so-called Hindu Shāhis of Kābul or Ohind. In 979 one of these, Jaipāl, advanced from Peshāwar to attack Sabuktagīn, governor of Khorāsān under the titular sway of the Sāmāni princes; but peace was effected and he retired. Nine years later Jaipāl was utterly defeated at Laghmān, and Sabuktagīn took possession of Peshāwar, which he garrisoned with 10,000 horse. On his death in 998, his son Mahmūd succeeded to his dominions, and, throwing off his nominal allegiance to the Sāmāni dynasty, assumed the title of Sultān in 999. In 1006 Mahmūd again invaded the Punjab; and on his return Jaipāl's son and successor, Anandpāl, attempted to intercept him, but was defeated near Peshāwar and driven into

Kashmīr. But he was able to organize further resistance, for in 1009 he again encountered Mahmūd, probably at Bhatinda, on the Indus, where he met with his final overthrow. The Ghaznivid monarchy in turn fell before Muhammad of Ghor in 1181; and after his death in 1206 the provincial governors declared their independence, making the Indus their western boundary, so that the Peshāwar valley was again cut off from the eastern kingdom. In 1221 the Mongols under Chingiz Khān established a loose supremacy over it. About the close of the fifteenth century, a great tide of Afghān immigration flowed into the District. Before Tīmūr's invasion the Dilazāks had been settled in the Peshāwar valley, in alliance with the Shalmanis, a Tājik race, subjects of the rulers of Swāt. The Khākhai (Khashi) Afghāns, a body of roving adventurers, who first come into notice in the time of Tīmūr, were treacherously expelled from Kābul by his descendant Ulugh Beg, whereupon they entered the Peshāwar valley in three main clans—the Yūsufzai, Gigiānis, and Muhammadzai—and obtained permission from the Dilazāks to settle on a portion of their waste lands. But the new immigrants soon picked a quarrel with their hosts, whom they attacked.

In 1519 Bābar, with the aid of the Dilazāks, inflicted severe punishment on the Yūsufzai clans to the north of the District; but before his death (1530) they had regained their independence, and the Dilazāks even dared to burn his fort at Peshāwar. The fort was rebuilt in 1553 by Bābar's successor, Humāyūn, after defeating his brother Mirza Kamrān, who had been supported against Humāyūn by the Ghorai Khel tribes (Khalīls, Daudzai, and Mohmands), now first heard of in connexion with Peshāwar. After his victory Humāyūn returned to Hindustān. On his departure the Ghorai Khel entered into alliance with the Khākhai Khel, and their united forces routed the Dilazāks and drove them out of the District across the Indus. The Ghorai Khel and Khākhai Khel then divided the valley and settled in the portions of it still occupied by them, no later tribal immigration occurring to dispossess them.

The Khalīls and a branch of the Mohmands took the south-west corner of the District; to the north of them settled the Daudzai; the remaining Mohmands for the most part stayed in the hills, but settlers gradually took possession of the triangle of land between the hills and the Swāt and Kābul rivers; the east portion of the District fell to the Khākhai Khel: namely, to the Gigiānis and Muhammadzai, Hashtnagar; and to the Yūsufzai and Mandanrs, Mardān and Swābi and the hill country adjoining.

In the next century the Mandanrs were driven from the hills by the Yūsufzai, and concentrated in the east portion of the Peshāwar valley, whence they in turn expelled the Yūsufzai. Peshāwar was included in

the Mughal empire during the reigns of Akbar, Jahāngīr, and Shāh Jahān; but under Aurangzeb a national insurrection was successful in freeing the Afghān tribes from the Mughal supremacy.

In 1738 the District fell into the hands of Nādir Shāh; and, under his successors, Peshāwar was often the seat of the Durrāni court. On the death of Tīmūr Shāh in 1793, Peshāwar shared the general disorganization of the Afghān kingdom; and the Sikhs, who were then in the first fierce outburst of revenge upon their Muhammadan enemies, advanced into the valley in 1818, and overran the whole country to the foot of the hills. In 1823 Azīm Khān made a last desperate attempt to turn the tide of Sikh victories, and marched upon Peshāwar from Kābul; but he was utterly defeated by Ranjīt Singh, and the whole District lay at the mercy of the conquerors. The Sikhs, however, did not take actual possession of the land, contenting themselves with the exaction of a tribute, whose punctual payment they ensured or accelerated by frequent devastating raids. After a period of renewed struggle and intrigue, Peshāwar was reoccupied in 1834 by the Sikhs, who appointed General Avitabile as governor, and ruled with their usual fiscal severity.

In 1848 the Peshāwar valley came into the possession of the British, and was occupied almost without opposition from either within or without the border. During the Mutiny the Hindustāni regiments stationed at Peshāwar showed signs of disaffection, and were accordingly disarmed with some little difficulty in May, 1857. But the 55th Native Infantry, stationed at Naushahra and Hoti Mardān, rose in open rebellion; and on a force being dispatched against them, marched off towards the Swāt hills across the frontier. Nicholson was soon in pursuit, and scattered the rebels with a loss of 120 killed and 150 prisoners. The remainder sought refuge in the hills and defiles across the border, but were hunted down by the clans, till they perished of hunger or exposure, or were brought in as prisoners and hanged or blown away from guns. This stern but necessary example prevented any further act of rebellion in the District.

Population.

Peshāwar District contains 7 towns and 793 villages. The population at each of the last three enumerations was: (1881) 599,452, (1891) 711,795, and (1901) 788,707. It increased by nearly 11 per cent. during the last decade, the increase being greatest in the Mardān *tahsīl*, and least in that of Naushahra. The District is divided into five *tahsīls*, the chief statistics of which are given in the table on the next page.

The head-quarters of each *tahsīl* is at the place from which it is named. The chief towns are the municipality of PESHĀWAR, the administrative head-quarters of the District and capital of the Province, NAUSHAHRA, CHĀRSADDA, TANGI, and MARDĀN. Muham-

madans number 732,870, or more than 92 per cent. of the total; Hindus, 40,183; and Sikhs, 11,318. The language of the people is Pashtū.

Tahsīl.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Peshāwar	451	1	259	248,060	550	+ 9.7	Not available.
Chārsadda	380	3	168	142,756	376	+ 7.4	
Mardān	610	1	130	137,215	225	+ 20.5	
Swābi	467	...	94	144,513	309	+ 10.6	
Naushahra	703	2	142	116,163	166	+ 7.3	
District total	2,611	7	793	788,707	302	+ 10.8	31,247

Peshāwar is as much the home of the Afghāns as Kābul, and hence we find that of the total population of the District 402,000, or 51 per cent., are Pathāns. They are almost entirely dependent on agriculture. Their distribution is as above described. The Khattaks are the principal tribe in the Naushahra *tahsīl*. Among these fanatical Pathāns, the Saiyids, descendants of the Prophet, who occupy a position of great influence, number 24,000. In the popular phraseology of the District, all tribes who are not Pathāns are Hindkīs, the most numerous being the Awāns (111,000). They are found only in the Peshāwar and Naushahra *tahsīls*, and besides being very fair cultivators are petty traders as well. Gūjars (16,000) and Bāghbāns (9,000) are other Hindkī agriculturists. These tribes are all Muhammadans. Of the trading classes, Aroras (17,000) and Khattrīs (13,000) are the most important, and the Parāchas (carriers and pedlars, 7,000) come next. Of the artisan classes, Julāhās (weavers, 19,000), Tarkhāns (carpenters, 16,000), Lohārs (blacksmiths, 8,000), Kumhārs (potters, 8,000), and Mochīs (shoemakers and leather-workers, 5,000) are the most numerous. The Kashmīris, immigrants from Kashmīr, number 9,000. Of the menial classes, the most important are Nais (barbers, 9,000), Dhobis (washermen, 8,000), and Chūhrās and Musallis (sweepers, 8,000). The Mīrāsīs (4,000), village minstrels and bards, and the Ghulāms (300), who are chiefly engaged in domestic service and appear only in this District, are also worth mentioning. Agriculture supports 60 per cent. of the population.

The Church Missionary Society established its mission to the Afghāns at Peshāwar in 1855, and now has branches at Naushahra and Mardān. It organized a medical mission in 1884, and in 1894 founded the Duchess of Connaught Hospital. The Zanāna Mission has a staff of five English ladies, whose work is partly medical and partly evangelistic and educational. The Edwardes Collegiate (Mission)

School, founded in 1855, is now a high school with a collegiate department attached.

Agriculture.

With the exception of the stony tracts lying immediately below the hills, the District displays a remarkable uniformity of soil: on the surface, light and porous earth with a greater or less intermixture of sand; and below, a substratum of strong retentive clay. The only varieties of soil are due to variations in the depth of the surface earth, or in the proportion of sand mixed with it; and with irrigation the whole valley is capable, almost without exception, of producing the richest crops. Sandy and barren tracts occur in some few localities, but they are of small extent, and bear an insignificant proportion to the total area. The spring harvest, which in 1903-4 occupied 70 per cent. of the total area cropped, is sown chiefly from the end of September to the end of January, and the autumn harvest chiefly in June, July, and August, though sugar and cotton are sown as early as March.

The District is held almost entirely by communities of small peasant proprietors, large estates covering only about 153 square miles. The following table shows the statistics of cultivation in 1903-4, in square miles:—

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.	Not available for cultivation.
Peshāwar .	451	203	152	157	91
Chārsadda .	380	261	175	58	61
Mardān . .	610	409	119	53	148
Swābi . .	467	317	38	35	115
Naushahra .	703	177	47	259	267
Total	2,611	1,367	531	562	682

The chief food-crops are wheat (555 square miles), barley (287), and maize (231). Sugar-cane (32) and cotton (26) are also of some importance. The neighbourhood of Peshāwar produces apricots, peaches, pomegranates, quinces, and other fruits in great abundance; and 8·62 square miles were under fruits and vegetables in 1903-4.

The area cultivated at the settlement of 1895-6 showed an increase of 7 per cent. in the previous twenty years, largely due to the extension of canal-irrigation in the Naushahra and Peshāwar *tahsīls*. Since 1895-6 there has been a slight decrease in the cultivated area, which seems to show that the limits of the resources of the District in this respect have been reached. Little has yet been done towards improving the quality of the crops grown. Loans for the construction of wells and the purchase of plough cattle are readily appreciated by the people, and during the five years ending 1902-3 an average of Rs. 9,100 was

advanced. In 1903-4 Rs. 6,460 was advanced under the Land Improvements Acts, and Rs. 5,420 under the Agriculturists' Loans Act.

Wheeled carriages are common throughout the District, though there is much pack traffic mainly carried on bullocks, which are fine strong animals, much superior to those used in agriculture. Horses are not extensively reared in the valley. The Civil Veterinary department maintains a horse and seven donkey stallions, and the District board three pony and two donkey stallions. Large flocks of sheep and goats are owned by the border villages, which have extensive grazing rights on the stony plains at the foot of the hills.

Of the total cultivated area of the District in 1903-4, 531 square miles or 40 per cent. were irrigated. Of these, 71 square miles were irrigated from wells, 453 from canals, and 7 from streams and tanks. In addition, 26·5 square miles, or 2 per cent., are subject to inundation. Well-irrigation is resorted to in the eastern half of the District wherever the depth of the spring-level allows. The District contains 6,389 masonry wells worked with Persian wheels by bullocks, besides 5,121 unbricked wells, lever wells, and water-lifts. The most important canals of the District are the SWĀT, KĀBUL, and Bārā River Canals. The two first are under the management of the Canal department, the last named is in charge of the Deputy-Commissioner. The Michni-Dilazāk canal, taking off from the left bank of the Kābul river, and the Shabkadar branch canal from the right bank of the Swāt river, belong to the District board. The District also contains a large number of private canals, which are managed by the Deputy-Commissioner under the Peshāwar Canals Regulation of 1898.

There is ample historical evidence that in ancient times the District was far better wooded than it is now, and the early Chinese pilgrims often refer to the luxuriant growth of trees on hill-slopes now practically bare. The only forest at present is a square mile of military 'reserved' forest; but large areas of waste, in which the people and Government are jointly interested, have been declared 'protected' forests. Of these, the most important is that known as the Khwarra-Zira forest in the south-east corner of the District. Fruit gardens and orchards are numerous, especially near Peshāwar city.

The District contains quarries of slate and marble, and *kankar* is found in considerable quantities. Gold is washed in the Indus above Attock and in the Kābul river, but the yield is very small.

Trade and communications.

Peshāwar is noted for its turbans, woven either of silk or of cotton, with silk edges and fringes; and a great deal of cotton cloth is produced. Cotton fabrics, adorned with coloured wax, and known as 'Afrīdi waxcloth,' are now turned out in large quantities for the European market. The principal woollen manufactures are felted mats and saddle-cloths, and

blankets; glazed earthenware of considerable excellence is made, and a considerable manufacture of ornamental leather-work exists. Copper-ware is largely turned out. Matting, baskets, and fans are made of the dwarf-palm.

The main trade of the District passes through the city of Peshāwar, and, though of varied and not uninteresting nature, is less extensive than might perhaps have been expected. In 1903–4 the value of the trade as registered was 182·5 lakhs, of which 68 lakhs were imports. The bulk of Indian commerce with Northern Afghānistān and the countries beyond (of which Bokhāra is the most important), Dīr, Swāt, Chitrāl, Bājaur, and Buner, passes through Peshāwar. The independent tribes whose territories adjoin the District are also supplied from it with those commodities which they need. Besides Peshāwar city, there are bazars in which a certain amount of trade is done at Naushahra, Kalān, Hoti Mardān, Shankargarh, Tangi, Chārsadda (Prāng), and Rustam. The chief exports in 1903–4 were European and Indian cotton piece-goods, raw cotton, yarn, indigo, turmeric, wheat, leathern articles, manufactured articles of brass, copper and iron, salt, spices, sugar, tea, tobacco, and silver.

The transactions of the Peshāwar market, however, are insignificant when compared with the stream of through traffic from the direction of Kābul and Bokhāra which passes on, without stopping at Peshāwar, into the Punjab and Northern India.

The main line of the North-Western Railway enters the District by the Attock bridge over the Indus, and has its terminus at Peshāwar, whence an extension runs to Fort Jamrūd. A branch line also runs from Naushahra through Mardān to Dargai. The District possesses 157 miles of metalled roads, of which 40 are Imperial military, 93 Imperial civil, 17 belong to the District board, and 7 to cantonments. There are 672 miles of unmetalled roads (23 Imperial military, 123 Imperial civil, and 516 District board). The grand trunk road runs parallel with the railway to Peshāwar and thence to Jamrūd at the mouth of the Khyber Pass, and a metalled road from Naushahra via Mardān crosses the border from the Malakand pass into Swāt. Other important roads connect Peshāwar with Kohāt, with Abāzai, with Michni, with the Bārā fort, and with Cherāt. The Khyber Pass is the great highway of the trade with Kābul and Central Asia, and is guarded two days a week for the passage of caravans. The Indus, Swāt, and Kābul rivers are navigable at all seasons, but are not much used for traffic. The Indus is crossed by the Attock railway bridge, which has a subway for wheeled traffic, and by three ferries. There are four bridges of boats and six ferries on the Kābul river and its branches, two bridges of boats and six ferries on the Landai, and three bridges of boats and twelve ferries on the Swāt river and its branches.

Administration.

The District is divided for administrative purposes into five *tahsīls*, each under a *tahsīldār* and *naib-tahsīldār*, except Peshāwar, where there are a *tahsīldār* and two *naibs*. The *tahsīls* of Mardān and Swābi form the Yūsufzai subdivision, in charge of an Assistant Commissioner whose head-quarters are at Mardān, the home of the famous Corps of Guides. This officer is entrusted, under the orders of the Deputy-Commissioner, with the political supervision of Buner and the Yūsufzai border. European officers with the powers of subdivisional officers are in charge of Peshāwar city, and of the Chārsadda and Naushahra *tahsīls*. The Deputy-Commissioner is further assisted by an Assistant Commissioner, who is in command of the border military police. There are also three Extra-Assistant Commissioners, one of whom has charge of the District treasury. The District Judge and the Assistant Commissioner at Mardān have the powers of Additional District Magistrates.

The Deputy-Commissioner as District Magistrate is responsible for the criminal work of the District; civil judicial work is under a District Judge, and both are supervised by the Divisional and Sessions Judge of the Peshāwar Civil Division. The Assistant Commissioner, Mardān, has the powers of a Subordinate Judge, and in his civil capacity is under the District Judge, as also are two Munsifs, one at head-quarters and one at Mardān. There is one honorary Munsif at Peshāwar. The Cantonment Magistrate at Peshāwar is Small Cause Court Judge for petty civil cases within cantonment limits. The criminal work of the District is extremely heavy, serious crime being common. The Frontier Crimes Regulation is in force, and many cases are referred to the decision of councils of elders. Civil litigation is not abnormally frequent. Important disputes between Pathān families of note are, when possible, settled out of court by councils of elders under the control of the Deputy-Commissioner. The commonest type of civil suit is based on the claim of reversionary heirs to annul alienations of lands made by widows and daughters of deceased sonless proprietors, as being contrary to custom.

The plain south of the Kābul river and the rich *doāb* between the Kābul and Swāt rivers have always been under the control of the central government of the time, while the Khattak hills and the great plain north of the Swāt and Kābul rivers have generally been independent.

In 1834 the Sikhs finally gained a firm hold on the *doāb* and the tract south of the Kābul river. They imposed a full assessment and collected it through the leading men, to whom considerable grants were made. The Sikh collections averaged $6\frac{1}{2}$ lakhs from 1836 to 1842, compared with $5\frac{2}{3}$ lakhs under the Durrānis. These figures exclude the revenues of Yūsufzai and Hashtnagar, which are also

excluded from the first summary settlement, made in 1849–50, when the demand was 10 lakhs. Yūsufzai was settled summarily in 1847 and Hashtnagar in 1850.

In 1855 a new settlement was made for the whole District. It gave liberal reductions in Peshāwar, the *doāb*, Daudzai, and Naushahra, where the summary assessment, based on the Sikh demands, had been very high, while the revenue in Yūsufzai was enhanced. The net result was a demand of less than 8 lakhs. This assessment was treated as a summary one, and a regular settlement was carried out between 1869 and 1875, raising the revenue to 8 lakhs. The settlement worked well, particularly in those villages where a considerable enhancement was made, the high assessment acting as a stimulus to increased effort on the part of the cultivators. The revenue, however, was recovered with the greatest difficulty; and the history of the settlement has been described as one continuous struggle on the part of the *tahsīldār* to recover as much, and on the part of the landowners to pay as little, of the revenue demand as possible. This was due to the character and history of the people, and does not reflect at all on the pitch of the assessment. The latest revision began in 1892 and was finished in 1896. The chief new factors in the situation were the opening of the Swāt and the Kābul River Canals, the development of communications in 1882 by means of the railway, the rise in prices, and the increase in prosperity due to internal security. Assessed at half the net 'assets', the demand would have amounted to $23\frac{3}{4}$ lakhs, or Rs. 2–7–7 per cultivated acre. The revenue actually imposed was slightly more than 11 lakhs, an increase of about $2\frac{1}{3}$ lakhs, or 28 per cent., on the former demand. Of the total revenue Rs. 1,89,000 is assigned, compared with Rs. 1,76,000 at the regular settlement. The incidence per cultivated acre varies from Rs. 1–11–4 in Chārsadda to R. 0–8–8 in Mardān.

Frontier remissions are a special feature of the revenue administration. A portion of the total assessment of a border estate is remitted, in consideration of the responsibility of the proprietors for the watch and ward of the border. The remissions are continued during the pleasure of Government, on condition of service and good conduct.

The collections of total revenue and of land revenue alone are shown below, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	6,83	7,11	9,69	10,03
Total revenue . .	9,72	9,72	18,54	16,70

PESHĀWAR CITY is the only municipality. Outside this local affairs are managed by a District board, whose income is mainly derived from

a local rate. In 1903-4 the income of the board was Rs. 1,15,000, and the expenditure Rs. 1,21,000, public works forming the largest item.

The regular police numbers 1,265 of all ranks, of whom 210 are cantonment and 277 municipal police. There are 27 police stations and 20 road-posts. The police force is under the control of a Superintendent, who is assisted by three European Assistant Superintendents; one of these is in special charge of Peshāwar city, while another is stationed at Mardān.

The border military police numbers 544 men, under a commandant who is directly subordinate to the Deputy-Commissioner. They are entirely distinct from the regular police. The posts are placed at convenient distances along the frontier; and the duty of the men is to patrol and prevent raids, to go into the hills as spies and ascertain generally what is going forward. The system is not in force on the Yūsufzai border, as the tribes on that side give little or no trouble. The District jail at head-quarters can accommodate 500 prisoners.

Since 1891 the population has actually gone back in literacy, and in 1901 only 4 per cent. (6·5 males and 0·1 females) could read and write. The reason is that indigenous institutions are decreasing in number every year owing to the lack of support, while public instruction at the hands of Government has failed as yet to become popular. The influence of the Mullās, though less powerful than it used to be, is still sufficient to prevent the attendance of their co-religionists at Government schools. The education of women has, however, made some progress. This is due in a large measure to the exertions of lady missionaries, who visit the *zanānas* and teach the younger women to read Urdū, Persian, and even English. The number of pupils under instruction was 1,833 in 1880-1, 10,655 in 1890-1, 9,242 in 1900-1, and 10,036 in 1903-4. In the latest year there were 10 secondary and 78 primary (public) schools, and 30 advanced and 208 elementary (private) schools, with 64 girls in public and 755 in private institutions. Peshāwar city contains an unaided Arts college and four high schools. The total expenditure on education in 1903-4 was Rs. 61,000, to which District funds contributed Rs. 25,000, the Peshāwar municipality Rs. 6,400, and fees Rs. 14,700.

Besides the Egerton Civil Hospital and four dispensaries in Peshāwar city, the District has five outlying dispensaries. In these institutions there are 133 beds for in-patients. In 1904 the number of cases treated was 202,793, including 2,980 in-patients, and 9,290 operations were performed. The income amounted to Rs. 27,600, which was contributed by municipal funds and by the District board equally. The Church Missionary Society maintains a Zanāna Hospital,

named after the Duchess of Connaught, which is in charge of a qualified European lady.

The number of successful vaccinations in 1903-4 was 24,000, representing 33 per 1,000 of the population.

[J. G. Lorimer, *District Gazetteer* (1897-8).]

Peshāwar Tahsīl.—Head-quarters *tahsīl* of Peshāwar District, North-West Frontier Province, lying between 33° 43′ and 34° 13′ N. and 71° 22′ and 71° 45′ E., with an area of 451 square miles. The population in 1901 was 248,060, compared with 226,113 in 1891. The *tahsīl* consists of two distinct tracts. The first is a low-lying riverain basin, through which flow the branches of the Kābul river north of Peshāwar city; this tract comprises the old Daudzai *tappa*, which is low-lying and swampy, and that of Khālsa, which also contains a good deal of marshy ground, especially near Dilazāk and Muhammadzai. The second tract consists of uplands which rise gradually to the Afrīdi hills; it comprises the Khalīl and Mohmand *tappas*, so named from the Pathān tribes which hold them. The *tahsīl* is intersected by the KĀBUL RIVER CANAL. It contains the city and cantonment of PESHĀWAR (population, 95,147), its head-quarters, and 259 villages. The land revenue and cesses in 1903-4 amounted to a little more than Rs. 5,00,000.

Peshāwar City.—Capital of the North-West Frontier Province, and head-quarters of the District and *tahsīl* of the same name, situated in 34° 1′ N. and 71° 35′ E. The cantonment is situated on a ridge overlooking the surrounding plain and the city, which lies near the left bank of the Bārā stream, 13½ miles south-east of the junction of the Swāt and Kābul rivers, and 10½ miles from Jamrūd fort near the entrance of the Khyber Pass. It is distant by rail from Calcutta 1,552 miles, and from Bombay 1,579 miles, and by road from Kābul 190 miles. It is the terminus of the grand trunk road, but a branch of the North-Western Railway runs on to Jamrūd. The population was 79,982 in 1881, 54,191 in 1891, and 95,147 in 1901, consisting of 68,352 Muhammadans, 18,552 Hindus, 5,144 Sikhs, and 3,063 Christians. Of the total population, 21,804 live in cantonments.

Peshāwar was in the time of Fa Hian the capital of the Gandhāra province, and is historically important at all later periods. (*See* PESHĀWAR DISTRICT.) It was famous during the early centuries of the Christian era as containing the begging-pot of the Buddha, a holy *pīpal*-tree whose branches are said to have given shade to the Master, and an enormous *stūpa* built by Kanishka. Buddhist remains still mark its early greatness. The name is not improbably derived from Parashāwara or Purushapura, the seat of a king named Purush; and the present form Peshāwar is referred to the emperor Akbar, whose fondness for innovation is said to have led him to change the name,

of whose meaning he was ignorant, to Peshāwar, the 'frontier town.' In 1552 Humāyūn found the fortress in ruins, but had it repaired and entrusted it to a governor, who successfully defended it against the Afghāns under Khān Kajū. The town appears to have been refounded by Balgram, a contemporary of Akbar, and was much enlarged by General Avitabile, its governor under the Sikhs. It became the head-quarters of a British District in 1849, and the capital of the North-West Frontier Province in 1901.

The modern city has but slight architectural pretensions, the houses, though lofty, being chiefly built of small bricks or mud, held together by a wooden framework. It is surrounded by a mud wall, built by General Avitabile, which is gradually being replaced by a wall of brick. The city has sixteen gates. The main street, known as the Kissa kahāni, which is entered from the Kābul Gate (re-erected as a memorial to Sir Herbert Edwardes), is a broad roadway 50 feet in width, consisting of two double rows of shops, the upper rooms of which are generally let out as lodgings; the street is well paved, and at busy times presents a very picturesque sight. The remainder of the city proper consists of squares and markets, with narrow and irregular streets and lanes. A masonry canal runs through the centre of the city, which is, however, only used to carry off drain-water and sewage. Drinking-water is brought down in pipes from the water-works, for which the municipal committee pays a yearly rental. Wells are used only in the hot season to supply colder water than the pipes afford. The sanitary and conservancy arrangements are very good, and all the drains are paved. There are now very few old houses of architectural importance, most of them having been destroyed at the time of the capture of the city by the Sikhs from the Durrānis. Several handsome mosques ornament the city; and a large building, known as the Gorkhattri, once a Buddhist monastery, and subsequently formed into a Hindu temple, is now used as the *tahsīlī*. Just without the wall, on the north-western side, a quadrilateral fort, the Bāla Hisār, crowns a small eminence completely dominating the city. Its walls of sun-dried brick rise to a height of 92 feet above the ground, with a *fausse-braye* of 30 feet; bastions stand at each corner and on three of the faces, while an armament of guns and mortars is mounted above.

South-west of the city, stretching from just outside the walls, are the suburbs of Bhāna Māri and Deri Bāghbānān, where there are gardens noted for their fruit, producing quinces, pomegranates, plums, limes, peaches, and apples in abundance. These gardens, especially a public garden called the Wazīr Bāgh, form a favourite pleasure-ground of the people; north of the city is another public pleasure-ground, the Shāhi Bāgh or 'royal garden.'

Two miles west of the city lie the cantonments, where the civil offices are also situated. The cantonments were occupied by British troops soon after annexation in 1848–9. The garrison has been much reduced and consists at present of one battery of field artillery, two regiments of British and three of Native infantry, one regiment of Native cavalry, and one company each of sappers and miners, bearer corps, and army hospital native corps. The garrison forms part of the Peshāwar military division of the Northern Command, and the head-quarters of the division are situated here.

The municipality was constituted in 1867. The income and expenditure during the ten years ending 1902–3 averaged 2·3 and 2·15 lakhs respectively. In 1903–4 the income was 2·8 lakhs, of which more than 2 lakhs were derived from octroi, while the expenditure amounted to 2·9 lakhs, the chief heads of charge being conservancy (Rs. 26,000), education (Rs. 12,000), hospitals and dispensaries (Rs. 18,000), public safety (Rs. 46,000), and administration (Rs. 36,000). The income and expenditure of cantonment funds during the ten years ending 1902–3 averaged Rs. 53,000 and Rs. 52,500 respectively; in 1903–4 the income was Rs. 69,000, and the expenditure Rs. 70,000.

The main trade of the District passes through the city of Peshāwar. Though of a varied and not uninteresting nature, it is less extensive than might perhaps have been expected, but its position makes it important as an *entrepôt* for Central Asia. The principal foreign markets having dealings with Peshāwar are Kābul and Bokhāra. From the former place are imported raw silk, worsted, cochineal, jalap, asafoetida, saffron, resin, simples, and fruits, both fresh and dried, principally for re-exportation to the Punjab and Hindustān, whence are received in return English piece-goods, cambrics, silk, indigo, sugar, tea, salt, and spices. Bokhāra supplies gold coins, gold and silver thread and lace, principally for re-exportation to Kashmīr, whence the return trade is shawls. Iron from Bājaur, skins, fibres and mats made of the dwarf-palm (*mazri*), are the only remaining items of importance coming from beyond the border.

The city possesses an unaided Arts college attached to the Mission high school, and four high schools; namely, the municipal and Edwardes Mission Anglo-vernacular high schools, and two unaided Anglo-vernacular high schools. It also contains a civil hospital and four dispensaries. Another institution is the Martin Lecture Hall and Institute, with its reading-room and library, also maintained by the Peshāwar Mission.

Peth.—Former head-quarters of the Vālva *tāluka* of Sātāra District, Bombay, situated in 17° 3′ N. and 74° 14′ E., 45 miles south-east of Sātāra town. Population (1901), 6,820. Peth is a local trade centre,

the chief articles of trade being grain and cattle. A yearly fair attended by about 5,000 people is held in February.

Pethāpur State.—Petty State in MAHĪ KĀNTHA, Bombay.

Pethāpur Town.—Chief town of the State of the same name in the Mahī Kāntha Agency, Bombay, situated in 23° 13′ N. and 72° 33′ E., on the west bank of the Sābarmatī. Population (1901), 5,616. The town is noted for the brilliancy of its dyes and for the manufacture of cutlery, but the latter industry is declining. Considerable quantities of cloth are brought into the town to be coloured, and are then exported to Siam.

Petlād Tāluka.—*Tāluka* in the Baroda *prānt*, Baroda State, lying to the north of the river Mahī, intersected by parts of Kaira District, with an area of 181 square miles. The population fell from 157,786 in 1891 to 134,558 in 1901. It contains 7 towns, PETLĀD (population, 15,282), the head-quarters, SOJITRĀ (10,578), VĀSO (8,765), NAR (6,525), PIHIJ (5,282), DHARMAJ (4,827), and BHĀDRAN (4,761); and 68 villages. The *tāluka* consists mostly of a level plain, without rivers and woods, but with numerous trees lining the fields or clustering about the villages. About one-fourth of the soil is black, one-half is light red or *gorāt*, and the remainder a mixture of these called *besār*. The *tāluka* is specially known for its excellent tobacco. In 1904–5 the land revenue was Rs. 4,83,000.

Petlād Town.—Head-quarters of the *tāluka* of the same name, Baroda *prānt*, Baroda State, situated in 22° 29′ N. and 72° 50′ E., on a broad-gauge line from Anand on the Bombay, Baroda, and Central India Railway to Cambay. Population (1901), 15,282. Petlād contains a *naib-sūbah's* office, a civil court, a jail, Anglo-vernacular and vernacular schools, a dispensary, a library, and numerous *dharmsālas* and temples. It is administered as a municipality, with an annual grant from the State of Rs. 3,100. Being the centre of a tobacco-producing tract, a prosperous trade is carried on in that product; and there is in addition a considerable manufacture of cloth, brass and copper pots, and locks.

Phagwāra Tahsīl.—*Tahsīl* of Kapūrthala State, Punjab, lying between 31° 9′ and 31° 23′ N. and 75° 44′ and 75° 59′ E., with an area of 118 square miles. The population increased from 63,549 in 1891 to 69,837 in 1901. It contains one town, PHAGWĀRA (population, 14,108), and 88 villages. The land revenue and cesses in 1903–4 amounted to 2·1 lakhs. The *tahsīl*, which lies in the great plain of the Doāb, is fertile everywhere. It is divided into three tracts known as Sirwāl, Manjkī, and Dhāk. The characteristic of the Sirwāl is a soft blackish sandy soil, containing moisture, and generally capable of producing sugar-cane and rice without inundation. The Manjkī has a hard red soil, productive of good crops with

timely rainfall or sufficient irrigation. The Dhāk has a soil of fertile blackish clay.

Phagwāra Town. — Town in the Phagwāra *tahsīl*, Kapūrthala State, Punjab, situated in 31° 14′ N. and 75° 47′ E., on the North-Western Railway. Population (1901), 14,108. The town is growing rapidly in population and commercial importance, as the exemption of its market from octroi enables it to compete on favourable terms with neighbouring towns in British territory. It is now the largest mart in the Jullundur Doāb, and possesses a high school and a dispensary.

Phālākāta.—Village in Jalpaigurī District, Eastern Bengal and Assam. *See* FĀLĀKĀTA.

Phalalum.—Peak in Darjeeling District, Bengal. *See* PHALŪT.

Phalauda.—Town in the Mawānā *tahsīl* of Meerut District, United Provinces, situated in 29° 11′ N. and 77° 51′ E., 17 miles north of Meerut city. Population (1901), 5,214. It is said to have been founded by a Tomar named Phalgu, whose descendants were dispossessed by Mīr Surkh, a Persian from Mazandarān. The town is a poor place, with narrow dirty streets, but has fine mango groves surrounding it. There is a *dargāh* of a saint called Kutb Shāh, where a religious fair is held annually; and the Church Missionary Society has a branch here. Phalauda is administered under Act XX of 1856, with an income of about Rs. 1,300. It contains a primary school with 75 pupils in 1904.

Phālia.—*Tahsīl* of Gujrāt District, Punjab, lying between 32° 10′ and 32° 44′ N. and 73° 17′ and 73° 53′ E., with an area of 722 square miles. The Jhelum bounds it on the north-west and the Chenāb on the south-east. The plateau which occupies most of the northern portion of the *tahsīl* is separated from the riverain tracts to the north and south by a high bank, below which the country slopes gradually towards the rivers. The population in 1901 was 197,974, compared with 203,938 in 1891. The *tahsīl* contains 311 villages, including Phālia, the head-quarters. The land revenue and cesses in 1903–4 amounted to 3·2 lakhs. CHILIĀNWĀLA, the scene of Lord Gough's battle with the Sikhs in 1849, is in this *tahsīl*, and the Jhelum Canal has its head-works at MONG RASŪL. The village of SADULLĀPUR is of some historical interest.

Phalodi.—Head-quarters of a district of the same name in the State of Jodhpur, Rājputāna, situated in 27° 8′ N. and 72° 22′ E., about 70 miles north by north-west of Jodhpur city. Population (1901), 13,924. It is a large and flourishing town, the home of many enterprising merchants trading, in some cases, beyond the borders of India; and it possesses several fine houses with beautifully carved sandstone fronts. The town contains a post office, an Anglo-vernacular school, and a small hospital. The principal manufactures are metal

utensils and mats of camel hair. Phalodi is said to have been founded about the middle of the fifteenth century, and, along with the district, was taken by Rao Māldeo nearly 100 years later. It was granted to the chief of Jaisalmer by Akbar, and was subsequently included for a short time in Bīkaner. The fort, a large and well-built one, with walls over 40 feet high, has a capacious reservoir for water and some fine palaces. About 10 miles to the north is a large depression (5 miles in length and 3 in breadth) called the Phalodi salt source. It was leased to the British Government in 1878 and worked till 1892, when it was closed, as the manufacture was found to be unprofitable owing to the distance from the railway.

Phaltan State. — Petty State in the Sātāra Political Agency, Bombay. *See* SĀTĀRA AGENCY.

Phaltan Town.—Chief town of the State of Phaltan, Bombay, situated in 17° 59′ N. and 74° 28′ E., 37 miles north-east of Sātāra. Population (1901), 9,512. The town was founded by Nimbrājī in the fourteenth century. The streets are well kept and clean, and the road round the town is well shaded by trees. The municipality, established in 1868, had an income of over Rs. 14,000 in 1903-4. Gujarāt Vānīs carry on a brisk trade between the coast and the interior. The town contains a dispensary.

Phalūt.—One of the loftiest peaks in the Singālilā spur of the Himālayas, in the head-quarters subdivision of Darjeeling District, Bengal, with a height of 11,811 feet, situated in 27° 13′ N. and 88° 3′ E. The view of the great northern snowy mountains from this hill is one of indescribable grandeur. A jagged line of snow connecting the two highest known mountains in the world, Everest and Kinchinjunga, dazzles the eye; and, while the deep silence around impresses itself upon the spectator, the thick clumps of pine forest with their wide-spreading arms add a weird solemnity to the scene. The Nepāl frontier road passes by this hill, and there is a staging bungalow which is available to travellers on application to the Deputy-Commissioner of Darjeeling.

Phaphūnd.—Town in the Auraiyā *tahsīl* of Etāwah District, United Provinces, situated in 26° 36′ N. and 79° 28′ E. 36 miles south-east of Etāwah town. Population (1901), 7,605. The town was a place of some importance before British rule, but it declined during the eighteenth century. It was formerly the head-quarters of a *tahsīl*, and is still the residence of a Munsif, and contains a dispensary. The tomb and mosque of a celebrated saint, Shāh Bukhārī, who died in 1549, attract about 10,000 pilgrims annually. Phaphūnd is administered under Act XX of 1856, with an income of about Rs. 2,000. There is little trade. The town school has about 200 pupils, and a girls' school about 30.

Pheni.—River of Eastern Bengal, and also subdivision and village in Noākhāli District, Eastern Bengal and Assam. *See* FENNY.

Phillaur Tahsīl.—*Tahsīl* of Jullundur District, Punjab, lying on the north bank of the Sutlej, between 30° 57′ and 31° 13′ N. and 75° 31′ and 75° 58′ E., with an area of 291 square miles. The population in 1901 was 192,860, compared with 189,578 in 1891. The head-quarters are at the town of PHILLAUR (population, 6,986); and it also contains the towns of NŪRMAHAL (8,706) and JANDIĀLA (6,620), with 222 villages. The land revenue and cesses in 1903–4 amounted to 4·2 lakhs. The Sutlej forms the southern boundary of the *tahsīl*, and along the right bank is a narrow strip of low-lying alluvial land about 1½ miles in width. The uplands which form the greater part of the *tahsīl* are an unbroken plain with a loam soil.

Phillaur Town.—Head-quarters of the *tahsīl* of the same name in Jullundur District, Punjab, situated in 31° 1′ N. and 75° 48′ E., on the north bank of the Sutlej, on the North-Western Railway and the grand trunk road. Population (1901), 6,986. The town was founded by Shāh Jahān, who built a royal *sarai* here, converted by Ranjīt Singh into a fort in consequence of the British occupation of Ludhiāna. A cantonment was established here after the first Sikh War, but the native troops mutinied in 1857 and it was not reoccupied. The fort was made over in 1891 to the Police department, and is now occupied by the Police Training School and the central bureau of the Criminal Identification Department. The chief commercial importance of the place is as a timber market. Its only manufacture is that of cotton cloth. The Sutlej is crossed here by a railway bridge 5,193 feet long, completed in 1870. There is no foot-bridge, but ferry trains are run at frequent intervals. The municipality was created in 1867. The income and expenditure during the ten years ending 1902–3 averaged Rs. 9,400. In 1903–4 the income was Rs. 11,000, chiefly from octroi; and the expenditure was Rs. 11,000. The town has an Anglo-vernacular middle school, maintained by the municipality, and a Government dispensary.

Phūl Nizāmat.—A *nizāmat* or administrative district of the Nābha State, Punjab, lying between 30° 8′ and 30° 39′ N. and 74° 50′ and 75° 50′ E., with an area of 394 square miles. The population in 1901 was 111,441, compared with 101,245 in 1891. It contains two towns, PHŪL (population, 4,964), the head-quarters, and DHANAULA (7,443); and 96 villages. The land revenue and cesses in 1903–4 amounted to 4·3 lakhs. The *nizāmat* includes five separate areas interspersed with the territories of Farīdkot, Patiāla, and Jīnd States, and with the British Districts of Ferozepore and Ludhiāna. Its main block is the territory round the towns of Phūl and Dhanaula, which has an area of 289 square miles, Jaito and Lohat Baddi *parganas* com-

prising most of the rest. It is divided into the five police circles of Dyālpur, Phūl, Dhanaula, Jaito, and Lohat Baddi. The *nizāmat* lies wholly in the great natural tract known as the Jangal, which is dry and healthy, possessing a sandy soil of considerable fertility where water is available. The spring-level is too far below the surface for well-irrigation, but the *nizāmat* is now commanded by the Sirhind Canal.

Phūl Town.—Head-quarters of the Phūl *nizāmat* of Nābha State, Punjab, situated in 30° 20′ N. and 75° 18′ E. Population (1901), 4,964. The town was founded by Chaudhri Phūl, the ancestor of the Phūlkiān houses, who in 1627 left Mahrāj and founded a village, to which he gave his own name, 5 miles east of that place. It contains a vernacular middle school, a police station, and a dispensary. Rāmpur, a station on the Rājpura-Bhatinda branch of the North-Western Railway, 3 miles from Phūl, possesses a large grain market; and Chotiān, a large village 2 miles distant, has an Anglo-vernacular middle school for Sikhs.

Phulbāni.—Head-quarters of the Khondmāls subdivision of Angul District, Bengal, situated in 20° 29′ N. and 84° 16′ E. Population (1901), 475. Phulbāni contains the usual public offices; the sub-jail has accommodation for 14 prisoners.

Phulcharī.—Village in the Gaibānda subdivision of Rangpur District, Eastern Bengal and Assam, situated in 25° 12′ N. and 89° 37′ E., on the right bank of the Brahmaputra river. Population (1901), 2,782. It is the terminus of the Brahmaputra-Sultānpur Branch Railway, and a large jute-exporting centre.

Phuljhur.—River of Eastern Bengal and Assam, formed by the union of the Karatoyā and Halhāliā in Bogra District, in 24° 38′ N. and 89° 29′ E. It is subsequently joined by the Hurāsāgar, an offshoot of the JAMUNĀ (3); and the united stream, after being further augmented by the Baral and ICHĀMĀTĪ (1) near Berā in Pābna District, flows into the Jamunā (3).

Phūlkiān States.—The three Native States of PATIĀLA, JĪND, and NĀBHA in the Punjab are collectively known as the Phūlkiān States. They are the most important of the Cis-Sutlej States, having a total area of 7,599[1] square miles, with a population (1901) of 2,176,644 and a gross revenue of 97·5 lakhs. The main area of this group of States contains 5,611 square miles, and lies between 74° 10′ and 77° 3′ E. and 29° 4′ and 30° 54′ N. It is bounded on the north by the District of Ludhiāna; on the east by Ambāla and Karnāl; on the south by Rohtak and Hissār; and on the west by Ferozepore and the State of

[1] These figures do not agree with the area given in the article on the PUNJAB, which is the area returned in 1901, the year of the latest Census. They are taken from more recent returns.

Farīdkot. This area is the ancestral possession of the Phūlkiān houses. It lies mainly in the great natural tract called the Jangal (desert or forest), but stretches north-east into that known as the Pawādh and southwards across the Ghaggar into the Nardak, while its southernmost tract, round the ancient town of Jīnd, claims to lie within the sacred limits of KURUKSHETRA. This vast tract is not, however, the exclusive property of the States; for in it lie several islands of British territory, and the State of Māler Kotla enters the centre of its northern border. On the other hand, the States hold many outlying villages surrounded by British territory. While the three States, as a group, form a comparatively continuous area, individually each resembles Brunswick or the county of Cromarty, its territory being scattered and inextricably intermingled with that of the other States. Besides its share in the ancestral possessions of the Phūlkiān houses, Patiāla holds a considerable area in the Simla Hills, acquired in 1815. In addition to these possessions, the three States hold a fairly compact block of outlying territory in the south-east of the Punjab, between 75° 58′ and 76° 27′ E. and 27° 48′ and 28° 27′ N. The area of this tract is 1,534 square miles. It is bounded on the north by Hissār; on the east by Rohtak and Gurgaon; and on the south and west by Rājputāna. Each of the States received a part of this territory as a reward for services in the Mutiny.

The ruling families are descended from Phūl, their eponym, from whom are also sprung the great feudal, but not ruling, families of Bhadaur and Malaud, and many others of less importance. Collaterally again the descendants of Phūl are connected with the rulers of Farīdkot, the extinct Kaithal family, and the feudatories of Arnauli, Jhamba, Siddhuwāl, and, north of the Sutlej, Atāri. These numerous branches of a vigorous stock belong to the great Siddhu-Barār tribe, the most powerful Jat clan south of the Sutlej, and claim descent from Jaisal, a Bhāti Rājput, who, having founded the State of Jaisalmer in 1156, was driven from his kingdom by a rebellion and settled near Hissār. Hemhel, his son, sacked that town and overran the country up to Delhi, but was repulsed by Shams-ud-dīn Altamsh. Subsequently, in 1212, that ruler made him governor of the Sirsa and Bhatinda country. But his great-grandson Mangal Rao, having rebelled against the Muhammadan sovereign of Delhi, was beheaded at Jaisalmer. His grandson, Khīwa, sank to the status of a Jat by contracting a marriage with a woman of that class; and though the great Siddhu-Barār tribe in the following centuries spread itself far and wide over the MĀLWĀ country up to and even beyond the Sutlej, the descendants of Khīwa fell into poverty and obscurity, until one of them, Sanghar, entered the service of the emperor Bābar with a few followers. Sanghar himself fell at Pānīpat in 1526; but the emperor rewarded his devotion

by granting his son Baryām the *chaudhrāyat* or intendancy of the waste country south-west of Delhi, and thus restored the fortunes of the family. The grant was confirmed by Humāyūn; but in 1560 Baryām fell fighting against the Muhammadan Bhattis, at once the kinsmen and hereditary foes of the Siddhu tribe. Baryām was succeeded as *chaudhri* by his son Mahrāj and his grandson Mohan, who were both engaged in constant warfare with the Bhattis, until Mohan was compelled to flee to Hānsi and Hissār, whence he returned with a considerable force of his tribesmen, defeated the Bhattis at Bhedowāl, and on the advice of the Sikh Gurū Har Gobind founded Mahrāj in Ferozepore District. But the contest with the Bhattis was soon renewed, and Mohan and his son Rūp Chand were killed by them in a skirmish about 1618. His second son Kāla succeeded to the *chaudhrāyat* and became the guardian of Phūl and Sandāli, the sons of Rūp Chand. Phūl left six sons, of whom Tiloka was the eldest, and from him are descended the families of Jīnd and Nābha. From Rāma, the second son, sprang the greatest of the Phūlkiān houses, that of Patiāla. The other four sons succeeded to only a small share of their father's possessions.

In 1627 Phūl founded and gave his name to a village which is now an important town in the State of Nābha. His two eldest sons founded Bhai Rūpa, still held jointly by the three States, while Rāma also built Rāmpur. The last named successfully raided the Bhattis and other enemies of his line. He then obtained from the Muhammadan governor of Sirhind the intendancy of the Jangal tract. His cousin Chain Singh was associated with him in the office; but Rāma could brook no rival and caused his cousin to be assassinated, only to fall in turn a victim to the vengeance of Chain Singh's sons. The blood-feud was duly carried on by Ala Singh, Rāma's third son, who killed all but one of the sons of Chain Singh.

Ala Singh, now quit of his nearest enemies, established a post at Sanghera, to protect its people against the chiefs of Kot and Jagraon. In 1718 he entrusted Bhadaur to his brother, and rebuilt Barnāla, where he took up his residence. Shortly afterwards his son Sardūl Singh attacked and destroyed Mīna, the possession of a Rājput who was related to the powerful Rai Kalha of Kot. This roused the Rai to a determined attempt to destroy the rising power of Ala Singh; and collecting a large force led by the Rājput chiefs of Halwāra, Malsin, Thattar, and Talwandi, and the famous Jamāl Khān, Rais of Māler Kotla, and strengthened by an imperial contingent under Saiyid Asad Alī Khān, general of the Jullundur Doāb, he attacked the Sikhs outside Barnāla. The imperial general fell early in the day and his men abandoned the field. The troops of Māler Kotla and Kot followed their example, and the Sikhs obtained a complete victory, routing the

Muhammadan forces and taking many prisoners and much booty. This victory raised Ala Singh to the position of an independent chief, and the Sikhs flocked to his standard. But the next ten years were consumed in desultory warfare with the Bhattis, and Ala Singh allied himself with the imperial governor of Sirhind against the chief of Kot, who was forced to abandon his principality. Ala Singh, however, soon quarrelled with his ally, and was in consequence thrown by him into prison, where he would have perished but for the self-sacrifice of a follower, a relative of Chain Singh, his hereditary foe. Thus freed, Ala Singh built the fort of Bhawānigarh, 22 miles west of the town of Patiāla. Three years later his general, Gurbakhsh Singh, Kāleka, subdued the territory of Sanaur or Chaurāsi, in which the town of Patiāla lies, and fortified the latter place to hold the conquered territory in check. Meanwhile the Dīwān of Samand Khān, governor of Sirhind, had fled for protection to Ala Singh, who refused to surrender him. Samand Khān thereupon marched on Sanaur, only to meet with a severe defeat. Bhai Gurbakhsh Singh, the founder of the Kaithal family, next invoked the aid of Ala Singh in subduing the country round Bhatinda, which was then held by Sardār Jodh Singh. Ala Singh dispatched a considerable force against this chief, but effected nothing until the Sikhs from the north of the Sutlej came to his aid, overran the country, and placed Bhai Gurbakhsh Singh in possession of it. Ala Singh then turned his arms against two neighbouring chiefs, who, having called in vain upon the Bhattis for help, were slain with several hundred followers and their territories annexed. With his son Lāl Singh, Ala Singh now proceeded to overrun the country of the Bhatti chiefs, who summoned the imperial governor of Hissār to their aid; but in spite of his co-operation they were driven from the field. This campaign terminated in 1759 with the victory of Dhārsūl, which consolidated Ala Singh's power and greatly raised his reputation. Ahmad Shāh Durrāni on his invasion of India in 1761 had appointed Zain Khān governor of Sirhind; but the moment he turned his face homewards, the Sikhs, who had remained neutral during his campaigns against the Mughal and Marāthā powers, attacked Sirhind, which was with difficulty relieved by Jamāl Khān of Māler Kotla and Rai Kalha of Kot. In 1762 Ahmad Shāh Durrāni determined to punish the Sikhs for this attempt on Sirhind; and though a great confederacy of the Phūlkiān chiefs and other Sikh leaders was formed and opposed his advance near Barnāla, the Durrāni inflicted on them a crushing defeat, their loss being estimated at 20,000 men. Ala Singh himself was taken prisoner and Barnāla occupied by the Afghāns. The chief's ransom of 4 lakhs was paid with difficulty, and he was released; but Ahmad Shāh, in pursuance of his policy of employing the Sikhs against the Mughal power, gave Ala Singh a robe of honour with the

title of Rājā and authority to coin money in his own name, thus founding the Patiāla State. These gifts, however, raised the suspicions of the Sikhs; and Ala Singh only recovered his position in their eyes when, in 1763, he headed the great force of confederated Sikhs which took Sirhind, after Zain Khān had been defeated and slain outside its walls. In this battle the nascent State of Jīnd was represented by Alam Singh, a grandson of Tiloka, and that of Nābha by Hamīr Singh, his great-grandson. After the victory, the old Mughal district of Sirhind was divided among its conquerors. Sirhind itself, with its surrounding country, fell to Ala Singh, Amloh to Nābha, and a considerable area to Jīnd. In this year Jīnd and Nābha may be deemed to have come into being as ruling States, and henceforward their histories diverge.

The right of adoption was granted to the chiefs of Patiāla, Jīnd, and Nābha in 1860, together with the further concession that, in the event of the chief of any one State dying without male issue and without adopting a successor, the chiefs of the other two, in concert with the Political Agent, should choose a successor from among the Phūlkiān family. Succession in these cases is subject to the payment to the British Government of a *nazarāna* or fine equal to one-third of the gross revenue of the State. The Political Agent for the Phūlkiān States and Bahāwalpur resides at Patiāla.

Phūlpur Tahsīl.—*Tahsīl* of Allahābād District, United Provinces, comprising the *parganas* of Sikandra and Jhūsī, and lying between 25° 18′ and 25° 45′ N. and 80° 53′ and 82° 10′ E., on the north bank of the Ganges, with an area of 286 square miles. Population fell from 176,851 in 1891 to 171,653 in 1901. There are 486 villages and two towns, including PHŪLPUR (population, 7,611), the *tahsīl* head-quarters. The demand for land revenue in 1903–4 was Rs. 3,04,000, and for cesses Rs. 49,000. The density of population, 600 persons per square mile, is above the District average. Stretches of alluvial land border part of the course of the Ganges, but most of the *tahsīl* lies in the fertile uplands. In 1903–4 the area under cultivation was 172 square miles, of which 65 were irrigated. Wells supply a rather larger area than tanks or *jhīls*, and no other sources are important.

Phūlpur Town.—Head-quarters of the *tahsīl* of the same name in Allahābād District, situated in 25° 33′ N. and 82° 6′ E., on the metalled road from Allahābād city to Jaunpur. Population (1901), 7,611. The place is said to have been founded in the seventeenth century, but has no history. Besides the usual offices, it contains a dispensary, a police station, and a post office. Phūlpur is administered under Act XX of 1856, with an income of about Rs. 1,300. The market is of some importance, and there is a considerable trade in cloth, cotton, and metal vessels. Sugar was formerly an important

article of trade, but is so no longer. A little cotton cloth is made. The *tahsīlī* school has about 90 pupils.

Phultalā.—Village in the head-quarters subdivision of Khulnā District, Bengal, situated in 22° 58′ N. and 89° 29′ E., on the Bhairab river. Population (1901), 3,911. It has a brisk sugar manufacture and a large trade in rice, betel-leaves, &c. Phultalā is a station on the Eastern Bengal State Railway, and is also connected with Khulnā town by a good road.

Phulwāri.—Town in the head-quarters subdivision of Patna District, Bengal, situated in 25° 34′ N. and 85° 5′ E. Population (1901), 3,415.

Pigeon Island (also known as Netrāni or Nitrān).—Island 10 miles off the coast of North Kanara District, Bombay, situated in 14° 1′ N. and 74° 16′ E., about 15 miles north-west of Bhatkal. The island is about 300 feet high and half a mile broad. It is well wooded, and has a good landing on the west side. In clear weather it is visible 25 miles off. Its shores abound in white coral and lime, which are taken by boats to the mainland. The number of pigeons that haunt its caves have given the island its name. Besides pigeons, the island is frequented by the swiftlet (*Collocalia unicolor*), whose nests the Chinese esteem a delicacy. It also contains one of the largest known colonies of the white-bellied sea-eagle.

Pihānī.—Town in the Shāhābād *tahsīl* of Hardoī District, United Provinces, situated in 27° 37′ N. and 80° 12′ E., 16 miles north of Hardoī town. Population (1901), 7,616. The Hindus trace the foundation of the town to a settlement of Brāhmans, while the Musalmāns claim that it was founded by Saiyid Abdul Ghafūr, Kāzī of Kanauj, who remained faithful to Humāyūn after his defeat by Sher Shāh. Several of his descendants attained high rank, while his nephew became chief *mufti* under Akbar, with the title of Sadr Jahān. His tomb and mosque are the chief adornments of the town. Pihānī was administered as a municipality from 1877 to 1904, when it was constituted a 'notified area.' During the ten years ending 1901 the income and expenditure averaged Rs. 4,000. In 1903–4 the income and expenditure were Rs. 7,000. Pihānī was formerly noted for the manufacture of sword-blades of the finest temper, and of woven turbans; but both of these arts have declined. There are three schools, including one for girls, attended in all by 250 pupils, and the American Methodist Mission has a branch here.

Pihewa.—Ancient town in Karnāl District, Punjab. *See* PEHOWA.

Pihij.—Town in the Petlād *tāluka*, Baroda *prānt*, Baroda State, situated in 22° 40′ N. and 72° 49′ E. Population (1901), 5,282. The town possesses a vernacular school.

Pīlībhīt District.—North-eastern District of the Bareilly Division,

United Provinces, lying between 28° 6′ and 28° 53′ N. and 79° 37′ and 80° 27′ E., with an area of 1,350 square miles. On the north it is bounded by Nainī Tāl; on the north-east and east by the State of Nepāl and Kherī District; on the south by Kherī and Shāhjahānpur; and on the west by Bareilly. Though separated only by a short distance from the outer ranges of the Himālayas, Pīlībhīt consists entirely of a level plain, containing depressions but no hills, and intersected by several streams. The largest river is the SĀRDĀ, which, after a long course through the Himālayas and across the boulder-strewn tract known as the Bhābar, becomes an ordinary river of the plains at the north-east corner of the District. It then flows south-east, sometimes dividing Pīlībhīt from Nepāl, and often giving off smaller channels. A few miles south-west of the Sārdā is an affluent called the Chaukā, which flows in what was probably an old bed of the main river. In the centre of the District a long swamp, called the Mālā, lies north and south, dividing it into two distinct portions. The eastern *tahsīl* of Pūranpur contains a large area of forest land, and is remarkable for its unhealthy climate, the poverty of its inhabitants, and the instability of cultivation. The river GUMTĪ rises in the centre of this tract, but has a badly-defined bed, consisting of a series of swamps. West of the Mālā conditions are better, and the country gradually assumes the prosperous appearance of the plains of Rohilkhand. The Khanaut, Katnā, and Deohā are the principal rivers in this tract.

Physical aspects.

The District consists almost entirely of alluvium, though the bed of the Sārdā contains gravel and small boulders.

The flora of the District presents no peculiarity. In the north and east a large forest area is found, consisting chiefly of *sāl*, which gives place to the ordinary trees of the plains in the south and west.

In the wilder parts of Pūranpur tigers and leopards are numerous, but elsewhere scarce. Wild hog and deer of various kinds are found in many parts, and do much damage to the crops. The jackal and wolf are also common. Black and grey partridge, quail, sand-grouse, jungle-fowl, peafowl, geese, ducks, and snipe are the commonest game-birds. The mahseer is found in the Sārdā, and fish are common everywhere.

Fever is endemic throughout the District, and is especially virulent in the swamps near the forests in Pūranpur. Except for fever, Pīlībhīt is fairly healthy, and its proximity to the hills causes a more even temperature and cool climate than in the Districts farther south.

The same cause ensures a copious rainfall, the annual amount

averaging more than 49 inches. The two northern *tahsīls* receive 52 inches and Bīsalpur in the south about 44. Damage is occasionally caused both by excess and by deficiency of rain.

History.

At the end of the tenth century a line of princes of the Chhinda family ruled in the north of the District; nothing is known of them but their names, recorded in an inscription found near Dewal, and the fact that they made a canal. Local history commences with the rise of the Rohilla power in the eighteenth century, when Pīlībhīt fell into the hands of Hāfiz Rahmat Khān, the great leader of the Rohillas after the death of Alī Muhammad. He resided for a time at Pīlībhīt, which is indebted to him for its mosque and walls, some of its markets, and all that distinguished it before the advent of British rule. Rahmat Khān was killed in the battle near KATRA in 1774, fought between the Rohillas and the Nawāb of Oudh, who was aided by a British force lent by Warren Hastings. Pīlībhīt was occupied without resistance, and became part of the new dominions added to Oudh. In 1801, with the rest of Rohilkhand, it passed to the British, being ceded in lieu of the payment of tribute.

At the time of the Mutiny, in 1857, part of the present District was included in a subdivision of Bareilly. News of the rising of the troops at Bareilly reached Pīlībhīt on June 1, and tumults at once broke out among the population. The Joint-Magistrate was forced to retire to Nainī Tāl; and while the surrounding villages remained a prey to the rapacity and extortions of rival *zamīndārs*, the city nominally submitted to the authority of Khān Bahādur Khān, the rebel Nawāb of Bareilly, a grandson of Hāfiz Rahmat Khān. Order was restored in 1858, and has since then only been seriously disturbed in 1871, when a riot, which was not suppressed without bloodshed, occurred between Hindus and Muhammadans on the occasion of a Hindu festival.

Besides the ruins near DEWAL several extensive mounds are situated in various parts of the District, which have not been explored. Local tradition connects them with the mythical Rājā Vena.

Population.

There are five towns and 1,056 villages. Population has fluctuated considerably, owing to the unhealthy nature of a great part of the District, and the facility with which its inhabitants migrate. The numbers at the four enumerations were as follows: (1872) 492,098, (1881) 451,601, (1891) 485,108, and (1901) 470,339. The famine of 1877–8 and the fever epidemic of 1879 had serious effects on population. There are three *tahsīls*—BĪSALPUR, PĪLĪBHĪT, and PŪRANPUR—each named from its head-quarters. The principal towns are the municipalities of PĪLĪBHĪT and BĪSALPUR. The following table gives the chief statistics of population in 1901:—

Tahsīl.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Bīsalpur . .	363	2	424	196,333	541	+ 2·9	4,260
Pīlībhīt . .	474	3	390	184,922	390	− 7·1	5,066
Pūranpur . .	513	...	242	89,084	174	− 6·4	1,447
District total	1,350	5	1,056	470,339	348	− 3·0	10,773

Hindus form 82 per cent. of the total and Musalmāns more than 17 per cent. The density is below the Provincial average, owing to the large area of forest and waste in Pūranpur. Almost the entire population speak Western Hindī, Kanaujiā being the prevailing dialect.

Among Hindus the most numerous castes are: Kisāns (cultivators), 54,000; Kurmīs (agriculturists), 47,000; Lodhas (cultivators), 35,000; Chamārs (leather-workers and labourers), 31,000; Brāhmans, 25,000; and Muraos (market-gardeners), 25,000. The chief Muhammadan tribes and castes are: Julāhās (weavers), 15,000; Pathāns, 13,000; Shaikhs, 12,000; Behnās (cotton-carders), 6,000; Banjārās (grain-carriers and agriculturists), 5,000; and Rains (cultivators), 5,000. The Kisāns and Lodhas are found chiefly in the Bareilly and Agra Divisions, the Kurmīs in the centre of the Province, and the Banjārās in the sub-montane tracts. About 69 per cent. of the population are supported by agriculture—a high proportion; 6 per cent. by general labour, and 2 per cent. by weaving.

Out of 1,283 native Christians in 1901, 1,138 were Methodists. The American Methodist Mission has worked in this District since 1861.

Agriculture.

In the north-western *tahsīl* of Pīlībhīt, with its clay soil and heavy rainfall, rice forms the most important crop; wheat and gram are also grown, and the cultivation of sugar-cane has extended considerably. Pūranpur produces rice and wheat, but barley and oilseeds are grown to a larger extent than in Pīlībhīt, as the soil is lighter. In the south of the District rice is also an important crop, but sugar-cane is more valuable, and wheat and gram cover a larger area than in the north-west. The standard of cultivation varies considerably. In the south and west it will bear comparison with the best of the Rohilkhand Districts; but in the north-east and east, where the energies of the cultivator are devoted to protecting his crops from the depredations of wild beasts, tillage is slovenly and irrigation rare.

The ordinary tenures of the United Provinces are found; but the District is remarkable for the extent to which *zamīndāri mahāls* have remained undivided, especially in the two northern *tahsīls*. Out of

1,493 *mahāls* in these, only 30 are *pattīdāri*, while in the Bīsalpur *tahsīl* 617 *mahāls* are *pattīdāri* and 371 *zamīndāri*. The main agricultural statistics for 1903–4 are given below, in square miles:—

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Bīsalpur . .	363	241	84	66
Pīlībhīt. . .	474	240	37	59
Pūranpur . .	513	178	18	230
Total	1,350	659	139	355

Rice covered 186 square miles, or 28 per cent. of the net cultivated area, and wheat 194 square miles, or 29 per cent.; gram, barley, and *bājra* are the next most important food-crops. Sugar-cane was grown on 58, and oilseeds on 23 square miles. Hemp (*sān*), though it covered only 11 square miles, is increasing in importance.

There has been no permanent increase in cultivation during recent years, and fluctuations are considerable, owing to climatic reasons. A rise is, however, noticeable in the area sown with the more valuable crops, rice and sugar-cane. Wheat sown alone has been replaced by barley or by mixed crops, and there has been an increase in the area double cropped. Except in adverse seasons, loans from Government are rarely taken. No advances were made from 1890 to 1894; and though Rs. 97,000 was lent during the next ten years, Rs. 53,000 of this amount was advanced in 1896–7.

The District contains large stretches of grazing ground, especially in the Pūranpur *tahsīl*, and a special breed of cattle is found here, called *panwār*; the bullocks are of average size, quick movers, and fiery tempered. Some Hānsi bulls were once imported, but were not a success. Very few ponies or horses are kept, and the sheep and goats are generally inferior.

There is great divergence between the different *tahsīls* in the methods of irrigation, and the need and facilities for supplying water. In 1803–4 wells supplied 64 square miles, lakes and swamps 37, rivers 19, and Government canals 19 square miles. The canals, which are situated entirely in the western part of the Pīlībhīt *tahsīl*, consist of two systems, drawn from the Bahgul and Kailās, both of which are small streams. In ordinary years irrigation is not necessary, and small temporary wells can be made wherever required, except in the sandy tracts of Pūranpur. In the Bīsalpur *tahsīl* the supply from wells is regularly supplemented by a defective and wasteful private arrangement of dams on the small streams which traverse that area, especially on the Mālā swamp. The minor rivers are similarly used in the Pīlībhīt and Pūranpur *tahsīls* in seasons of drought. Water is generally raised

in earthen pots suspended from a lever (*dhenklī*), as the spring-level is high.

The 'reserved' forests of Pīlībhīt District cover 149 square miles, and are included, with some forest lying in Nainī Tāl District, in the Pīlībhīt Forest division. They lie on both sides of the Mālā swamp and south-west of the Chaukā, forming an area shaped like a horseshoe. The forests are the poorest in the Province, and are chiefly valuable for the grazing they afford, and the products used by the inhabitants of the neighbourhood. *Sāl* (*Shorea robusta*) and *haldu* (*Adina cordifolia*) are the most valuable trees; but many years must elapse before timber of value is produced. About 64 miles are occupied by similar forests belonging to private persons in the Pūranpur *tahsīl*, and 44 miles in the south of Bīsalpur are covered with jungle, chiefly *dhāk* (*Butea frondosa*).

Trade and communications.

Sugar-refining is the most important industry. Boat-building and wood-carving were formerly carried on largely; but the carpenters have now turned their attention to cart-making. There is a small manufacture of hempen bags and metal vessels, and cotton-weaving is carried on, but chiefly for local supply. Catechu is prepared in the north of the District.

The staple exports are wheat, sugar, and rice. In the last few years an export trade in *san*-hemp has sprung up. The finer varieties of rice grown in the rich lowlands of Nepāl are exported through this District, and there is also a considerable trade in hill produce, such as borax, pepper, and ginger. Neoriā, Bīsalpur, and Pūranpur are the principal trade centres, outside Pīlībhīt town.

The Lucknow-Sītāpur-Bareilly metre-gauge railway passes across the centre of the District, and a branch is contemplated from Pīlībhīt town to Tanakpur, the mart at the foot of the Kumaun hills. The District is very badly provided with roads, and the northern and eastern parts are almost impassable, except by elephants, during the rainy season. There are 13 miles of metalled roads from Pīlībhīt towards Bareilly, and 299 miles of unmetalled roads. The absence of *kankar* or nodular limestone is the chief cause of the want of better roads. Avenues of trees are maintained along 84 miles.

Famine.

The natural moisture of the soil is generally sufficient to protect the District from the extremity of famine, and excessive rain is more to be feared than drought. In the sandy tracts in the east and south, however, where wells cannot be made, drought affects the people. Large remissions of revenue were made in 1825-6, and the famine of 1837-8 was felt. Details of later famines are not available till that of 1868-9, when Rs. 43,000 was spent on relief, and large advances were made for seed and bullocks. The

famine of 1877–8 caused some distress and the revenue demand was reduced. In 1896–7 scarcity was again felt, but liberal advances were made and the District recovered rapidly.

Administration. The Collector is ordinarily assisted by two Deputy-Collectors recruited in India, and a *tahsīldār* resides at the head-quarters of each *tahsīl*. An officer of the Forest department is stationed at Pīlībhīt, while the canals are part of the Rohilkhand Canals under an officer at Bareilly.

Pīlībhīt is included in the Civil and Sessions Judgeship of Bareilly, and there is one District Munsif. Crime is usually light.

At annexation, in 1801, Pīlībhīt was included in the large District of Bareilly. From 1833 to 1842 part of the area now forming Pīlībhīt was included with other *tahsīls* in a District called North Bareilly. A sub-division was then created, consisting of Pīlībhīt, Pūranpur, and other territory, which became a separate District in 1879. In 1880 the Baherī *tahsīl* was restored to Bareilly, and the Bīsalpur *tahsīl* added to Pīlībhīt. The early settlements were thus made as part of BAREILLY DISTRICT, to which reference may be made for the methods followed. The demand fixed at the first regular settlement, under Regulation IX of 1833, on the present area was 5·9 lakhs. At the next settlement, between 1865 and 1872, the Bīsalpur *tahsīl* was treated as part of Bareilly District, and the Pīlībhīt and Pūranpur *tahsīls* were settled separately. The total revenue was raised to 7·2 lakhs; but a succession of bad years caused reductions to be made, and part of the District has since been under a system of short settlements. The Bīsalpur *tahsīl* was again settled in 1902 together with Bareilly District, the revenue being raised from 3·1 to 3·3 lakhs; but the revision of settlement in the other two *tahsīls* has been postponed for ten years. In 1902–3 the incidence of revenue was R. 1 per acre, varying from 5 annas in Pūranpur to Rs. 1·5 in Pīlībhīt.

The total collections on account of land revenue and revenue from all sources have been, in thousands of rupees :—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	7,18	7,01	7,29	7,11
Total revenue . .	9,24	9,81	10,52	10,74

There are two municipalities, PĪLĪBHĪT and BĪSALPUR, and three towns are administered under Act XX of 1856. Beyond the limits of these, local affairs are managed by the District board, which had an income of Rs. 72,000 in 1903–4, chiefly derived from rates. The expenditure was Rs. 79,000, including Rs. 40,000 on roads and buildings.

The District Superintendent of police has a force of 3 inspectors,

55 subordinate officers, and 221 men, distributed in 9 police stations. There are also 109 municipal and town police, and 1,066 village and road police. Up to 1902 convicts were sent to the Bareilly District jail; but a jail has now been built, which contained a daily average of 48 prisoners in 1903.

Pīlībhīt occupies a medium place as regards the literacy of its population, of whom 2·3 per cent. (4 males and 0·2 females) could read and write in 1901. The number of public schools rose from 62 with 2,124 pupils in 1880–1 to 77 with 3,066 pupils in 1900–1. In 1903–4 there were 107 public schools with 4,289 pupils, of whom 238 were girls, besides 45 private schools with 667 pupils, including 46 girls. Three of the schools were managed by Government, and 87 by the District and municipal boards. The total expenditure on education in 1903–4 was Rs. 27,000, chiefly met from Local funds.

There are 5 hospitals and dispensaries, with accommodation for 66 in-patients. About 52,000 cases were treated in 1903, of whom 777 were in-patients, and 1,100 operations were performed. The expenditure was Rs. 10,000, chiefly from Local funds.

In 1903–4, 21,000 persons were vaccinated, giving the high proportion of 45 per 1,000 of the population. Vaccination is compulsory only in the municipalities.

[*Settlement Report of Pīlībhīt* (1873); *Bareilly District Gazetteer* (1879, under revision); *Assessment Report*, *Tahsīl Bīsalpur* (1902).]

Pīlībhīt Tahsīl.—North-western *tahsīl* of Pīlībhīt District, United Provinces, comprising the *parganas* of Pīlībhīt and Jahānābād, and lying between 28° 29′ and 28° 53′ N. and 79° 37′ and 80° 3′ E., with an area of 474 square miles. Population fell from 199,039 in 1891 to 184,922 in 1901. There are 390 villages and three towns, including PĪLĪBHĪT (population, 33,490), the District and *tahsīl* head-quarters. The demand for land revenue in 1903–4 was Rs. 3,03,000, and for cesses Rs. 50,000. The density of population, 390 persons per square mile, is considerably above the District average. The Deohā and Katnā and many smaller streams traverse the *tahsīl*, and in the west two canals from the Bahgul and Kailās irrigate a small area. A long swamp, called the Mālā, forms the eastern boundary, fringed by a *sāl* forest. In 1903–4 the area under cultivation was 240 square miles, of which 37 were irrigated. In dry years temporary wells can be made readily, and the rivers are also used.

Pīlībhīt Town.—Head-quarters of the District and *tahsīl* of the same name, United Provinces, situated in 28° 38′ N. and 79° 48′ E., on the Lucknow-Sītāpur-Bareilly Railway. Population (1901), 33,490. The name is derived from Periyā, the title of a Banjārā clan, and *bhīt*, a 'wall' or 'mound.' It has no history till the middle of the eighteenth century, when it became the residence of Hāfiz Rahmat Khān, the

Rohilla leader. In 1763 he surrounded it with a mud wall, and six years later with a brick wall. For a time Pīlībhīt was called Hāfizābād, after the title of the great soldier. The town never rose to the importance of Bareilly; and after the defeat and death of Hāfiz Rahmat Khān in 1774 it declined under the rule of Oudh, and under the British, to whom it was ceded in 1801. At the time of the Mutiny in 1857, Pīlībhīt, though it had been the capital of a District from 1833 to 1842, was the head-quarters of a subdivision. The Joint-Magistrate was compelled to retire to Nainī Tāl, and the town was the scene of constant disturbances, though nominally subject to the rebel governor of Bareilly.

Pīlībhīt is almost surrounded by water. It lies between the Deohā and Kākra, which were formerly connected by ditches still forming drainage channels, though not constantly filled. A fine mosque built by Hāfiz Rahmat Khān, in imitation of the Jāma Masjid at Delhi, is the chief ornament of the town. The public buildings include the District courts, male and female dispensaries, a clock-tower, a Sanskrit school, and a Turkish bath. The houses are largely built of brick, and there are several good market-places lined with shops. Besides the ordinary District staff, a Forest officer resides at Pīlībhīt, and there is a branch of the American Methodist Mission. The municipality was constituted in 1865. During the ten years ending 1901 the income and expenditure averaged Rs. 46,000 and Rs. 45,000 respectively. In 1903–4 the income was Rs. 76,000, including octroi (Rs. 35,000) and rents (Rs. 22,000); and the expenditure was Rs. 71,000. A revised drainage scheme has lately been carried out. The trade of the town is largely concerned with the agricultural produce of the District, wheat, rice, sugar, and *san*-hemp forming the chief exports. In addition, Pīlībhīt is an important dépôt for the produce of Nepāl and the Himālayas. Carts and bedsteads are largely made and exported. The municipality maintains eight schools and aids four others, attended by 724 pupils.

Pilkhana.—Town in the Sikandra Rao *tahsīl* of Alīgarh District, United Provinces, situated in 27° 51′ N. and 78° 17′ E., 11 miles south-east of Alīgarh town. Population (1901), 5,109. The town is old, and gave its name to a *taluka* farmed to Dayā Rām of Hāthras at the beginning of British rule. It is administered under Act XX of 1856, with an income of about Rs. 1,200. There is a primary school with 60 pupils.

Pilkhuā.—Town in the Ghāziābād *tahsīl* of Meerut District, United Provinces, situated in 28° 43′ N. and 77° 40′ E., 19 miles south of Meerut city on the Oudh and Rohilkhand Railway, and on the metalled road from Delhi to Morādābād. Population (1901), 5,859. The town is badly drained and surrounded by stagnant pools, though a small

drainage cut has been made. It contains branches of the Church Missionary Society and the American Methodist Missions. From 1872 to 1904 it was administered as a municipality, with an income and expenditure averaging about Rs. 3,000, but it has now been declared a 'notified area.' The chief manufacture is country cloth, which is especially noted for a peculiar pattern made by dyeing. There is also a considerable trade in leather and shoemaking, and the products are exported as far as Calcutta and Bombay. In 1904 there was an aided primary school with 35 pupils.

Pīmpalner.—*Tāluka* of West Khāndesh District, Bombay, lying partly above and partly below the Western Ghāts, between 20° 50′ and 21° 16′ N. and 73° 51′ and 74° 33′ E., with an area of 933 square miles. There are 151 villages, but no town. The head-quarters are at Sakri. The population in 1901 was 56,638, compared with 59,278 in 1891. The density, 61 persons per square mile, is about two-fifths of the average for the District. The demand for land revenue in 1903–4 was 1·3 lakhs, and for cesses Rs. 8,000. The plains are intersected by abrupt mountain ranges, of which the range of the Selbāri hills is the most considerable. The tract below the Western Ghāts is composed of steep hill ranges, clothed with forest and inhabited by Bhīls. The climate is unhealthy, especially to Europeans and natives of the Deccan. There is a fair water-supply, the rivers being utilized for irrigation by means of masonry dams. The annual rainfall averages 21 inches.

Pimplādevi.—Petty State in the Dāngs, Bombay.

Pimpri.—Petty State in the Dāngs, Bombay.

Pināhat.—Former name of a *tahsīl* in Agra District, United Provinces. *See* Bāh.

Pinākini, Northern and Southern.—Two rivers of Southern India. *See* Penner and Ponnaiyār.

Pindari.—Glacier in the District and *tahsīl* of Almorā, United Provinces, situated between 30° 16′ and 30° 17′ N. and 80° and 80° 3′ E. The glacier is fed by the snow from the lofty peak of Nandā Kot and other mountains lying north of it, and is the source of the Pindar river, a tributary of the Alaknandā, which flows into the Ganges.

Pind Dādan Khān Tahsīl.—Southern subdivision and *tahsīl* of Jhelum District, Punjab, lying between 32° 27′ and 32° 50′ N. and 72° 32′ and 73° 29′ E., with an area of 875 square miles. It is bounded on the south-east by the Jhelum river, and is traversed in its northern portion by the Salt Range. The hills consist of two roughly parallel ranges about 6 miles apart, with a strip of richly cultivated and fairly level uplands between. The southern slopes of the hills are steep and barren. The rest of the *tahsīl* consists of a belt of alluvial plain,

a portion of which is much affected by saline deposits. The population in 1901 was 170,130, compared with 173,071 in 1891. It contains the town of PIND DĀDAN KHĀN (population, 13,770), the head-quarters; and 207 villages. The land revenue and cesses in 1903-4 amounted to 2·8 lakhs. KATĀS and MALOT are places of considerable archaeological interest, the village of JALĀLPUR possesses historical importance, and the MAYO MINE at Khewra is one of the chief sources of the supply of salt in India.

Pind Dādan Khān Town.—Head-quarters of the subdivision and *tahsīl* of the same name in Jhelum District, Punjab, situated in 32° 36′ N. and 73° 4′ E., on the right bank of the Jhelum river, and on the Sind-Sāgar branch of the North-Western Railway. Population (1901), 13,770. It was formerly the dépôt to which salt was brought from the Mayo Mine, and from which it was carried across the river to the railway; but the bridging of the Jhelum at Haranpur, and the extension of the railway to Khewra, have ruined this trade. Brass vessels are made in the town, which also has a considerable weaving industry, while its embroidered *lungīs* are often sold at high prices. Boat-building is largely carried on, and river boats of Pind Dādan Khān make are in request throughout the whole course of the Jhelum. Unglazed pottery of a deep red colour, ornamented with black patterns and remarkably strong and good in quality, is a speciality of the town, as also are stout leathern riding-whips made after English patterns. The municipality was created in 1867. During the ten years ending 1902-3 the receipts averaged Rs. 28,700, and the expenditure Rs. 28,100. In 1903-4 the income was Rs. 22,300, chiefly from octroi; and the expenditure was Rs. 27,000. The town has a high school, maintained by the municipality. There is also a Government dispensary.

Pindi Bhattiān.—Village in the Hāfizābād *tahsīl* of Gujrānwāla District, Punjab, situated in 31° 54′ N. and 73° 19′ E. It is a stronghold of the Bhatti Rājputs, from whom it takes its name, having been founded by them in the time of Akbar. The Bhatti chiefs were expelled by Ranjīt Singh, but were reinstated by the British Government, to whom they had rendered considerable assistance in the Sikh Wars. They also did good service in the Mutiny. The town has some trade in *ghī*, thread, grain, and Kābul fruits, and good saddles are made. It contains a wealthy community of Arora merchants, and formerly had a municipal committee which was abolished in 1890. It has prospered greatly since the construction of the Chenāb Canal, the population having risen from 3,674 in 1891 to 6,145 in 1901; and it is now administered as a 'notified area.'

Pindi Gheb Subdivision.—Subdivision of Attock District, Punjab, consisting of the PINDI GHEB and TALAGANG *tahsīls*.

Pindi Gheb Tahsīl.—*Tahsīl* of Attock District, Punjab, lying between 33° 0′ and 33° 47′ N. and 71° 42′ and 72° 40′ E., with an area of 1,499 square miles. The Indus bounds it on the north-west. Its highest point lies in the KĀLĀ-CHITTA range. The *tahsīl* is mainly a bleak, dry, undulating and often stony tract, broken by ravines, and sloping from east to west: a country of rough scenery, sparse population, and scanty rainfall. West along the Indus are the ravines and pebble ridges which surround Makhad. Only near Pindi Gheb town does the broad bed of the Sil river show a bright oasis of cultivation among the dreary uplands which compose the rest of the *tahsīl*. The population in 1901 was 106,437, compared with 99,350 in 1891. It contains the town of PINDI GHEB (population, 8,452), the head-quarters; and 134 villages. The land revenue and cesses in 1903–4 amounted to 1·9 lakhs.

Pindi Gheb Town.—Head-quarters of the subdivision and *tahsīl* of the same name in Attock District, Punjab, situated in 33° 14′ N. and 72° 16′ E., 21 miles from Jand station on the North-Western Railway. Population (1901), 8,452. Formerly known as Pindi Malika-i-Shahryār or Malika-i-Auliya, or 'queen of the saints,' it derives its modern name from the Ghebā tribe of Jats, and is now the ancestral home of the Jodhra Maliks, who founded it in the thirteenth century. The municipality was created in 1873. The income and expenditure during the ten years ending 1902–3 averaged Rs. 4,400. In 1903–4 the income was Rs. 5,200, chiefly from octroi; and the expenditure was Rs. 5,800. A vernacular middle school is maintained by the municipality, and a dispensary by Government.

Pinjaur Nizāmat.—A *nizāmat* or administrative district of the Patiāla State, Punjab, lying between 30° 4′ and 31° 11′ N. and 76° 29′ and 77° 22′ E., with an area of 784 square miles. The population in 1901 was 212,866, compared with 226,379 in 1891, dwelling in one town, BANŪR, and 1,588 villages. The land revenue and cesses in 1903–4 amounted to 6·5 lakhs. The *nizāmat* forms the north-eastern part of the State, and is divided into four *tahsīls*—RĀJPURA, BANŪR, PINJAUR, and GHANAUR. Of these, the first lies in the Himālayan area, and the other three in the Pawādh. The country is scarred by torrent-beds, and is characterized by a peculiar subsoil which makes irrigation from wells difficult. The head-quarters are at Rājpura. PINJAUR VILLAGE is a place of some antiquity.

Pinjaur Tahsīl.—North-eastern *tahsīl* of the Pinjaur *nizāmat*, Patiāla State, Punjab, lying between 30° 41′ and 31° 11′ N. and 76° 50′ and 77° 22′ E., with an area of 294 square miles. The population in 1901 was 55,731, compared with 56,745 in 1891. The *tahsīl* contains 1,136 villages, of which PINJAUR is the head-quarters. The land revenue and cesses in 1903–4 amounted to Rs. 84,000.

Pinjaur Village.—Head-quarters of the Pinjaur *nizāmat* and *tahsīl*, Patiāla State, Punjab, situated in 30° 48′ N. and 76° 59′ E., 3 miles from Kālka on the Simla road, at the confluence of the Koshallia and Jhajhra, two tributaries of the Ghaggar. Population (1901), 812. The name is a corruption of Panchāpura, and the place is of considerable antiquity, being mentioned by Abu Rihān in 1030. In 1254 it formed part of the territory of Sirmūr, which was ravaged by Nāsir-ud-dīn Mahmūd, king of Delhi. It was the fief of Fidai Khān, foster-brother of Aurangzeb, and the Rājā of Sirmūr recovered it in 1675 from the son of its former holder, a Hindu. Fidai Khān laid out the beautiful gardens, which still remain. Wrested from the Muhammadans by a Hindu official who made himself master of Mani Mājra, it was taken by Patiāla in 1769 after a desperate siege, in which the attacking force, though reinforced from Hindūr, Kahlūr, and Sirmūr, suffered severely. There are extensive Hindu remains and fragments of an ancient Sanskrit inscription in the village. Bourquin, Sindhia's partisan leader, dismantled the fort about 1793. The village has a dispensary and a police station, and is famous for its sacred tank, Dhāramandal or Dhārāchettra.

Pinlebu.—South-western township of Kathā District, Upper Burma, lying between 23° 40′ and 24° 22′ N. and 95° 6′ and 95° 48′ E., on either side of the Mu stream, with an area of 1,367 square miles. It was, together with the rest of the State of Wuntho, annexed in 1891. The population in 1901 was 29,321, distributed in 362 villages. The head-quarters are at Pinlebu (population, 617), on the Mu, in the centre of the township. The surveyed area under cultivation in 1903–4 was 35 square miles, and the land revenue and *thathameda* amounted to Rs. 75,700.

Pīpār.—Town in the State of Jodhpur, Rājputāna, situated in 26° 23′ N. and 73° 33′ E., on the left bank of the Jojri river (a tributary of the Lūni), about 32 miles east of Jodhpur city, and 7 miles south-east of Pīpār Road station on the Jodhpur-Bīkaner Railway. Population (1901), 6,785. The town is of some commercial importance, and is noted for its dyed cloths. Tradition assigns the foundation of Pīpār either to a king of the Paramāra Rājputs prior to the Christian era, or to a Pāliwāl Brāhman named Pīpa.

Pīplia.—*Thakurāt* in the Mālwā Agency, Central India.

Pipliānagar.—*Thakurāt* in the Bhopāl Agency, Central India.

Piplodā.—One of the mediatized chiefships of the Central India Agency, in the Mālwā Political Charge. It has an area of about 60 square miles.

The ancestors of the present chief were Doria Rājputs, who migrated from Kāthiāwār, one Kālujī seizing the fort of Sabalgarh, 7 miles from the present town of Piplodā, in 1285. In 1547 Shārdul Singh, sixth

in descent from Kālujī, greatly extended his possessions and founded the town of Piplodā. The estate was reduced to its present dimensions by the inroads of the Marāthās, the Thākur becoming subject to Amīr Khān. When independence was guaranteed to JAORĀ in 1818 by the twelfth article of the Treaty of Mandasor, the question of the status of Piplodā arose. Through the mediation of Sir John Malcolm, the Nawāb of Jaorā agreed in 1821 to allow the Thākur to hold his lands on paying Rs. 28,000 a year as tribute, and surrendering half the *sāyar* dues of the holding. In 1844 a fresh agreement was made, without the cognizance of the Government of India, in which the Thākur's position was more carefully defined. During the Mutiny Thākur Shiv Singh furnished cavalry and men to the British authorities at Mandasor. The present chief, Thākur Kesrī Singh, succeeded in 1887, having been educated at the Daly College at Indore.

The estate has a population (1901) of 11,441, of whom Hindus form 84 per cent. There are 28 villages in the *thakurāt*, the revenue of five of which is assigned to Panth-Piplodā (*see* MĀLWĀ AGENCY). About 72 per cent. of the population speak the Mālwī dialect, and 90 per cent. are agriculturists, the principal caste supported by it being the Kunbī.

The land is for the most part highly fertile, being chiefly black cotton, producing excellent crops of all the ordinary grains and of poppy. Of the total area, 33 square miles, or 55 per cent., are under cultivation, 3 square miles of this being irrigable. About 30 square miles produce cereals, 3 poppy, and one cotton. There are two metalled roads in the estate, one leading to Rankoda, the other to Puniākherī.

The Thākur administers the estate with the assistance of a *kāmdār*, and has limited judicial powers, all heinous cases being referred to the Political Agent. The total revenue is Rs. 95,000, of which Rs. 90,000 is derived from the land. The Thākur receives small yearly *tānkas* (cash payments) from the States of Dewās (Rs. 253) and Jaorā (Rs. 1,000). Revenue from irrigated land is collected in cash, from unirrigated in kind. The incidence of the revenue demand is Rs. 3-3 per acre of cultivated area.

Piplodā, the capital of the estate, is situated in 23° 36′ N. and 74° 57′ E., 11 miles from Jaorā, with which it is connected by a metalled road. Its population in 1901 was 3,282. A *dāk*-bungalow, a British post office, a hospital, a jail, and a school are situated in the town. Seven miles away stands the old fort of Sabalgarh, the first capital of the holding.

Piram (*Perim*).—Island in Ahmadābād District, Bombay, situated in 21° 36′ N. and 72° 21′ E., in the Gulf of Cambay, 4½ miles south of Gogha, and 2½ from the nearest part of the Kāthiāwār shore.

Piram is a reef of rock covered in part by brown sand, its dimensions at high water being one mile by about half a mile. It is included in the estate of the Gogha *Kasbātis*, to whom it was assigned by one of the Delhi emperors. Except on the south, it is surrounded by rocky reefs rising to the surface from a depth of from 60 to 70 feet. Past the island the tide runs with extreme force. To avoid the chopping sea and sunken reefs, boats crossing from Gogha to Piram stand out as if making for Dehej Bara at the mouth of the Narbadā. In the east of the island millet is grown and the low sand-hills are covered by asclepias. Beyond these are some *nīm* trees (*Melia Azadirachta*) and a fringe of mangrove bushes. The island is uninhabited in the rains, but contains a few families of husbandmen and fishermen in the fair season. On the ruins of an old bastion there is a dioptric light of the fourth order, visible for 17 miles.

Piram is the Baiones Island of the *Periplus*. Till the fourteenth century it would seem to have remained in the hands of Bāriya Kolīs. Then under their leader Mokharjī, the Gohel Rājputs, who about a century and a half earlier had retired from Mārwār to Gujarāt, passed south from Rānpur near Dhandhuka and took Gogha and Piram. Strengthening himself in his island fortress, Mokharjī became a great pirate chief; but his power was short lived. About the year 1300 complaints of his piracies were laid before Muhammad bin Tughlak, who was then in Gujarāt quelling a revolt. Advancing in person he attacked Piram, slew Mokharjī, and took his fort. The island was then deserted, and an attempt to colonize and fortify it failed. The Hindu seamen of the Gulf of Cambay still cherish Mokharjī's memory, seldom passing Piram without making him an offering. Of his stronghold there remains, skirting the shore, a ruined wall, with, below high-tide level, a gateway ornamented by two rock-cut elephants 10 feet long and 8 or 9 feet high. No further attempt would seem to have been made to fortify Piram, till, on the decay of Mughal power, about the middle of the eighteenth century, the ambitious Surat merchant Mullā Muhammad Alī built a fort on the island and tried to establish himself as an independent chief. Afraid of the climate his people forsook him, and the Mullā, giving up Piram, built a fort at Athva on the Tāpti, a few miles below Surat. The lines of the Mullā's fortress, from whose ruins the lighthouse tower was built, may be seen near the centre of the island stretching across its entire breadth. Besides traces of fortifications there are remains of temples, one of them with a rudely cut sitting figure of Buddha. The local story that Mokharjī built a mole from the mainland to Piram has, perhaps, no better foundation than the half-sunk wall and gateway and the reefs that, at low water, stand out like a giant's causeway.

Its large store of fossils gives a special interest to Piram. Besides

masses of petrified wood, large quantities of animal remains were found in 1836. Almost all were embedded in the rock in the south-east corner of the island, where the sea washes bare the lower conglomerate. The remains are the same as those of Upper Sind and of the Siwālik Hills. Besides two titanic ruminants, apparently with no living types, named the Bramatherium and the Sivatherium, there are species of elephant, rhinoceros, hippopotamus, horse, ox, antelope, several forms of crocodile, fresh-water tortoises, and fishes of gigantic size.

Pirāwa District.—One of the Central India *parganas* of the State of Tonk, Rājputāna. It is for certain purposes included in the charge of the Political Agent, Mālwā. It has an area of 248 square miles, and lies between 24° 1′ and 24° 24′ N. and 75° 51′ and 76° 11′ E., being bounded on the north by Indore, on the west by Indore and Jhālawār, and on the south and east by Gwalior. A group of Indore villages almost divides the northern from the southern half. The country is undulating in character, the uplands being chiefly reserved for grass, while the rich black soil in the valleys yields fine crops. The population in 1901 was 25,286, compared with 40,806 in 1891. There are 126 villages and one town, the head-quarters of the district. The principal castes are Sondhias, Mīnās, Dāngis, and Chamārs, forming respectively about 20, 14, 9, and 8 per cent. of the total. Nothing is known of the history of the district prior to the time of Akbar, when it formed part of the Kotrī-Pirāwa *sarkār* of the *Sūbah* of Mālwā. It was included in the territory bestowed on Ratan Singh of Ratlām by Shāh Jahān, but when Mahārājā Sawai Jai Singh of Jaipur was Sūbahdār of Mālwā it was transferred to Bājī Rao Peshwā. Subsequently, Holkar took possession; and in 1806 Jaswant Rao Holkar made it over to Amīr Khān, the grant being confirmed by the British Government under the treaty of 1817. Of the total area, 210 square miles, or 84 per cent., are *khālsa*, paying revenue direct to the Tonk Darbār, and the *khālsa* area available for cultivation is about 166 square miles. Of the latter, about 59 square miles, or 35 per cent., were cultivated in 1903–4, the irrigated area being nearly 6 square miles. Of the area cropped, *jowār* occupied 58 per cent., cotton 9, maize 8, and poppy 6 per cent. The revenue from all sources is about 1·4 lakhs, of which four-fifths is derived from the land. The town of Pirāwa is situated in 24° 9′ N. and 76° 3′ E., about 140 miles almost due south of Tonk city. Its population in 1901 was 4,771, Hindus forming nearly 50 per cent., Musalmāns 31, and Jains about 19 per cent. The town, which, from the inscriptions in its Jain temples, appears to date from the eleventh century, contains a picturesque fort of no great age, a post and telegraph office, a small jail, a vernacular school, and a dispensary for out-patients.

Piriyāpatna.—Town in the Hunsūr *tāluk* of Mysore District,

Mysore, situated in 12° 20′ N. and 76° 6′ E., 13 miles from Hunsūr. Population (1901), 3,872. Its original name was Singapattana, but the king who built the fort of stone and extended the place in the sixteenth century named it after himself. It was in the possession of the Changālva kings of Nanjarājpatna (in Coorg) till 1644, when it was taken by Mysore. The Coorg Rājā was confined here in the time of Tipū Sultān, but the fort was dismantled by the British on their advance against Seringapatam in 1791. The town is inhabited chiefly by traders, who export cotton, tobacco, and other commodities to Coorg, Cannanore, &c. A pack of hounds is maintained in the neighbourhood, which is regularly hunted by planters from Coorg and others. The municipality dates from 1898. The receipts and expenditure during the three years ending 1901 averaged Rs. 1,100 and Rs. 900. In 1903-4 they were Rs. 2,100 and Rs. 1,700.

Pīr Mangho.—Hot springs in Karāchi District, Sind, Bombay. *See* MAGAR TALAO.

Pīrmed.—Hill station on the Pīrmed range of hills, forming the southern portion of the Cardamom Hills, Travancore State, Madras, situated in 9° 33′ N. and 76° 59′ E. Population (1901), 9,932. Its general elevation is from 3,000 to 3,500 feet. Around it are thirty tea estates owned by Europeans, containing about 8,000 acres under crop. Roads connect the station with Changanācheri, Kottayam, Trivandrum, and other important places on the west, and with Madura District on the east. It is the head-quarters of the first-class magistrate and Assistant to the Superintendent and District Magistrate of the Cardamom Hills, and contains postal and telegraph offices. Pīrmed is supposed to be an abridgement of *Pīr-medu* ('Pīr's hill'), and to have been so called because a Musalmān saint named Pīr Muhammad once lived here in seclusion.

Pirojpur Subdivision.—Western subdivision of Backergunge District, Eastern Bengal and Assam, lying between 22° 1′ and 22° 54′ N. and 89° 52′ and 90° 14′ E., with an area of 692 square miles. The population in 1901 was 553,494, compared with 519,603 in 1891. It contains one town, PIROJPUR (population, 14,119), the head-quarters, and 1,066 villages, and supports 800 persons per square mile, the density being greatest in the north and centre. In the extreme north it is covered with great swamps like the adjoining parts of Farīdpur District, while in the south in the Matbāri *thāna*, where the density is only 480 persons per square mile, it merges in the SUNDARBANS.

Pirojpur Town.—Head-quarters of the subdivision of the same name in Backergunge District, Eastern Bengal and Assam, situated in 22° 35′ N. and 89° 59′ E., on the Baleswar river. Population (1901), 14,119. Pirojpur was constituted a municipality in 1885. The income during the decade ending 1901-2 averaged Rs. 6,300, and

the expenditure Rs. 6,200. In 1903-4 the income was Rs. 9,000, of which Rs. 5,000 was derived from a property tax; and the expenditure was Rs. 8,000.

Pīrpainti.—Village in the head-quarters subdivision of Bhāgalpur District, Bengal, situated in 25° 18′ N. and 87° 25′ E., on the East Indian Railway. Population (1901), 2,741. There is a considerable export of country produce. Stone is quarried in the neighbourhood.

Pishīn.—Subdivision and *tahsīl* covering the centre of the Quetta-Pishīn District, Baluchistān, lying between 30° 1′ and 31° 12′ N. and 66° 21′ and 67° 48′ E. It consists of the southern slopes of the Toba hills and the basin of the Pishīn Lora, the latter being a plain lying about 5,000 feet above sea-level. The area of the *tahsīl* is 2,717 square miles; its population in 1901 was 51,753, showing an increase of 14,573 since 1891. Pishīn, the head-quarters, which has sprung up since the British occupation, is 6 miles from Yāru Kārez railway station. The villages number 271, and the land revenue in 1903-4 amounted to Rs. 80,700. Large revenue-free grants, a relic of Afghān rule, are held chiefly by Saiyids. The *tahsīl* contains two irrigation works, the Shebo canal and the Khushdil Khān reservoir.

Pishīn Lora[1].—River in Baluchistān, having its source in the western slopes of the Kand mountain of the Toba-Kākar range and terminating in the Hāmūn-i-Lora. Its total length is about 250 miles. The principal affluents meet near Shādīzai in Pishīn. In addition to the Barshor Lora or main stream, they consist of the Kākar Lora, the Surkhāb, and the Shorarūd. Below the confluence of the upper tributaries the bed is 200 yards wide, and lies between scarped banks about 20 feet high. The running stream, however, is usually not more than a few yards wide and quite shallow. On entering the hills west of Shorarūd the course becomes deep and narrow, until it debouches into the Shorāwak plain (30° 22′ N., 66° 22′ E.). Here it becomes dissipated into several channels which find their way through Nushki. The area drained includes the west of the Sarawān country, Quetta-Pishīn, and Nushki in Baluchistān, besides Shorāwak in Afghānistān. For purposes of irrigation, water is taken off wherever it can be made available. The Shebo canal and the Khushdil Khān reservoir in Pishīn are dependent on it for their supply; and in 1903 an embankment for irrigation was constructed in the north of the Nushki *tahsīl* across the Bur channel.

Pithāpuram Estate.—A permanently settled *zamīndāri* estate in Godāvari District, Madras, with an area of 383 square miles, of which the greater part lies in the *zamīndāri tahsīl* of Pithāpuram and the Cocanāda *tāluk*. The estate contains 168 towns and villages, and has

[1] *Lora* is a Pashtū word signifying a channel carrying flood-water, as distinguished from *rūd*, a perennial stream.

a population (1901) of 280,317. The total demand on account of land revenue and cesses in 1903-4 amounted to 4 lakhs.

After the subjugation of the present Godāvari District by the Sultān of Golconda (*circa* 1572), the *parganas* of Selapaka, Cocanāda, and Prolunādu (as the country round Pithāpuram was then called) were constituted a revenue farm. These *parganas* were the nucleus of the existing Pithāpuram estate. In 1647 they were transferred, apparently because the holder had fallen into arrears, to Ravu Chandra Rāyanam, a court favourite. This Rāyanam was of the Velama caste, and from him the family still holding the estate traces its descent. As a special mark of favour he was allowed to repair and occupy the fort at Pithāpuram, which henceforward became the residence of the family.

For the next few years the history of the estate was uneventful; but, like its neighbours, Pithāpuram took advantage of the struggle for power in the Deccan to withhold the *peshkash*, or tribute. It shared their fate when Asaf Jāh, Nizām-ul-mulk, proved victorious (1724); and under the stern rule of his Sarlashkar, Rustam Khān, the recalcitrant *zamīndārs* were ousted and their estates brought under direct management. After Rustam Khān's death his successors for some time pursued the same policy, but about 1742 the estates were restored to the families of the former owners.

Pithāpuram took little part in the conflict between the French and the English. Some acts of hostility in conjunction with the neighbouring *zamīndār* of Peddāpuram led, however, to the seizure and occupation of Sāmalkot fort by the Company's troops in 1764. Otherwise the estate emerged intact from this troubled period, and in 1787 was described as one of the most fruitful and best cultivated *zamīndāris* under the Company. The *zamīndār* collected the land customs, and also claimed the sole right of manufacturing and vending salt in the Rājahmundry *sārkar*. The military force maintained was small and merely sufficed for the collection of the revenue, which was paid almost entirely in cash—an unusual circumstance.

In 1802 the estate was permanently settled, when the revenue was estimated at about 4 lakhs and a *peshkash* of 2·6 lakhs was imposed. Up to 1827 considerable additions were made. In that year, owing to the minority of the holder, it came under the Court of Wards and, in common with similar estates in Godāvari District, passed through a period of depression. In 1844 it was heavily in arrears. To restore the financial position most of the recently acquired portions were relinquished, and the ancient *zamīndāri* was handed over free of encumbrances to the proprietor. The estate is now again under the management of the Court of Wards, owing to the minority of the present holder.

The *zamīndāri* is very fertile. Much of it is watered by the Godāvari irrigation system, while the remainder is supplied by the small river Yeleru or by tanks. An engineering establishment is maintained to supervise the estate works in connexion with the Yeleru irrigation, which are numerous. The chief crops, as elsewhere in the District, are rice, other cereals, and oilseeds. Until quite recently the prevailing system of land tenure was the *vantu varadi*. Under this, each village was assessed for a term of years in a lump sum. The amount to be levied from each holding was then settled by a committee of the ryots themselves. Any person dissatisfied with the assessment imposed on his holding had the right to challenge the owner of a similar holding which he considered under-assessed. The latter had then to submit to an enhancement of his assessment, in which case the challenger received a corresponding diminution, or to exchange holdings. This system, owing to its manifold disadvantages, has now been generally abandoned, and in most cases the highest rent offered is assumed to be the proper rent of a holding, the leases being sold by auction. A field survey, to be followed by a regular settlement, is in progress, and the revenue system will probably in course of time be assimilated to that in Government land. The average rates paid for 'wet' and 'dry' land are Rs. 7-0-2 and Rs. 3-15 per acre respectively. The total income of the estate is $10\frac{1}{2}$ lakhs, of which the land revenue brings in $9\frac{1}{2}$ lakhs.

Among the places of importance within the *zamīndāri* are the towns of COCĀNADA, the District head-quarters, SĀMALKOT, and PITHĀPURAM. CORINGA, which also belongs to it, was once a well-known port, but its trade has now altogether disappeared.

Pithāpuram Tahsīl.—*Zamīndāri tahsīl* in Godāvari District, Madras, lying between 17° 3′ and 17° 19′ N. and 82° 10′ and 82° 32′ E., with an area of 191 square miles. The population in 1901 was 84,089, compared with 83,824 in 1891. It contains one town, PITHĀPURAM (population, 13,220), the head-quarters; and 48 villages. The demand on account of land revenue and cesses in 1903-4 amounted to Rs. 2,90,000. The *tahsīl* lies on the coast to the north of the delta of the Godāvari, and receives a low rainfall. It would be an infertile area were it not for the excellent irrigation from the Yeleru river.

Pithāpuram Town.—Head-quarters of the *zamīndāri tahsīl* of the same name in Godāvari District, Madras, situated in 17° 7′ N. and 82° 15′ E., 10 miles from Cocanāda by road and 398 miles from Madras by rail. Population (1901), 13,220. The weekly cattle market is an important institution, and there is a small local industry in the manufacture of bell-metal ware. Pithāpuram with its hamlets constitutes a Union, and the town contains the residence of the *zamīndārs*

of the estate of the same name. The principal temple has some inscriptions of importance; and in front of it is a pond called Pada Gayā, to which Pithāpuram owes its reputation as a place of pilgrimage.

Pithoro.—Recently formed *tāluka* of Thar and Pārkar District, Sind, Bombay, lying between 25° and 25° 35′ N. and 69° 15′ and 69° 40′ E., with an area of 481 square miles. The population (1901) was about 37,713, and the *tāluka* contains 128 villages, Samaro being the head-quarters. The land revenue and cesses in 1903-4 amounted to more than 2 lakhs. The Jodhpūr-Bīkaner Railway traverses the *tāluka*, which is irrigated by the Mithrao, Jāmrao, and Hiral Canals. The chief crops are rice and cotton.

Plassey (from *palās*, the *Butea frondosa*).—Village in the head-quarters subdivision of Nadiā District, Bengal, situated in 23° 47′ N. and 88° 16′ E., on the left bank of the Bhāgīrathi river. It is famous as the scene of Clive's victory over Sirāj-ud-daula, Nawāb of Bengal, on June 23, 1757. After the capture of Calcutta by Sirāj-ud-daula in June, 1756, Clive was dispatched with reinforcements from Madras to re-establish the British factories in Bengal, and he recaptured Calcutta in January, 1757. After prolonged negotiations he succeeded in gaining over Mīr Jafar, the Nawāb's general, whom he promised to install as Nawāb in place of Sirāj-ud-daula. In March Chandernagore was taken from the French, and on June 13 a fresh advance was made; Kātwa was captured on the 18th, and on the 22nd the troops marched to Plassey, where Sirāj-ud-daula was encamped with an army of 50,000 foot, 18,000 horse, and 50 pieces of cannon, mostly 24-pounders and 32-pounders drawn by bullocks. To oppose this army Clive had a force of 900 Europeans, of whom 100 were artillerymen and 50 sailors, 100 topasses or Portuguese half-castes, and 2,100 sepoys; the artillery consisted of 8 six-pounders and 2 howitzers. Clive encamped in a mango grove, which has since been washed away by the Bhāgīrathi, and the enemy were entrenched on the river bank to the north of him. At daybreak on the 23rd the enemy advanced to the attack, enveloping his right, Mīr Jafar being on the extreme left of the line. Both sides maintained a vigorous cannonade until 2 o'clock, when Sirāj-ud-daula drew off and returned to his entrenchments. At this, Mīr Jafar lingered behind on the left and eventually joined the British. Clive advanced and cannonaded the Nawāb's entrenchment, and entered his camp at 5 o'clock after a slight resistance, Sirāj-ud-daula having already fled to Murshidābād. This decisive victory was won with only a small loss, but it made the British masters of Bengal. A monument marks the scene of the battle-field.

Pochamcherla.—*Tāluk* in Nalgonda District, Hyderābād State. It was formed in 1905 from the Kodār sub-*tāluk* of Warangal Dis-

trict, and 15 and 35 villages taken from the Suriapet and Mirialguda *tāluks* of this District. Pochamcherla (population, 1,899) is the head-quarters, and the *tāluk* consists of 100 *khālsa* villages, its land revenue being 2·77 lakhs. Rice is extensively cultivated by tank-irrigation.

Podanūr.—Village in the District and *tāluk* of Coimbatore, Madras, situated in 10° 58′ N. and 77° 0′ E., 4 miles from Coimbatore city. Population (1901), 6,568. It is the junction of the Nīlgiri branch of the Madras Railway with the main line, and the site of considerable railway workshops. It enjoys a cool and healthy climate. A sugar manufactory has recently been opened.

Podili Tahsīl.—*Zamīndāri tahsīl* in the north-west of Nellore District, Madras, lying between 15° 23′ and 15° 45′ N. and 79° 12′ and 79° 49′ E., with an area of 564 square miles. The population in 1901 was 58,937, compared with 68,400 in 1891. It contains 111 villages, of which Podili is the head-quarters. The *tahsīl* is a part of the VENKATAGIRI ESTATE. There is a temple on the Velikonda hills near Garladinne, where a largely attended festival is held annually. These hills run through the west of the *tahsīl.* Of other scattered elevations, the most conspicuous is a fine range some miles south of Podili village. Two rivers, the Mūsi and Gundlakamma, run through the *tahsīl* and empty themselves into the Bay of Bengal.

Poicha.—Petty State in REWĀ KĀNTHA, Bombay.

Poila (or Pwela; Burmese, *Pwehla*).—State in the Myelat division of the Southern Shan States, Burma, lying between 20° 43′ and 20° 55′ N. and 96° 38′ and 96° 46′ E., with an area of 102 square miles. It is bounded on the north by Pangtara; on the south by Hsamönghkam; on the east by Mawsön and Yawnghwe; and on the west by Kyong and Kyawkku. Two circles are detached and border on the Meiktila District of Upper Burma. The State consists of open rolling downs; there are no perennial streams, and the country is dry. The population in 1901 was 7,866 (distributed in 62 villages), about half of whom were Taungyos. The greater part of the remainder is made up of Danus and a few Taungthus. The residence of the Myoza is Poila (population, 1,247), a village near the centre of the State boasting a large bazar. The revenue in 1904–5 amounted to Rs. 8,100, and the tribute to the British Government is Rs. 4,500.

Poini.—River of North Arcot District, Madras, which rises in the hills of the Chandragiri *tāluk* in 13° 34′ N. and 79° 6′ E. It flows almost due south, and after receiving the waters of numerous smaller streams finally joins the Pālār not far from Arcot, after a course of about 45 miles. Its waters are largely used for irrigation, and it is crossed by a dam, 792 feet in length from wing to wing, which was built in 1853. The dam was much damaged in 1874 by the same flood which breached the Pālār dam, and was subsequently recon-

structed. During the south-west monsoon the Poini has a more regular supply of water than the Pālār. The area commanded by the dam is 26,500 acres, of which 22,000 acres were irrigated in 1903-4. The supply might be further increased during the north-east monsoon if the storage capacity of the reservoirs which are fed by it were enlarged; but during the south-west monsoon all the surplus water running over this dam has to be sent down to the Pālār barrage, where the supply is often deficient.

Point Calimere.—Headland in Tanjore District, Madras. *See* CALIMERE, POINT.

Point Divi.—Headland in Kistna District, Madras. *See* DIVI, POINT.

Point, False. — Headland and lighthouse in Cuttack District, Bengal. *See* FALSE POINT.

Pokaran.—Head-quarters of a *jāgīr* estate of the same name in the Sānkra district of the State of Jodhpur, Rājputāna, situated in 26° 55′ N. and 71° 55′ E., about 85 miles north-west of Jodhpur city. Population (1901), 7,125. It has a post office, a vernacular school, and a dispensary. The town is on low ground closed in by hills to the north, south, and west, and water is plentiful. The small fort is well built and strong in appearance, but is commanded by the adjacent hills. About 2 miles away are the ruins of Sātalmer, a village founded by Sātal, the eldest son of Rao Jodha, about the end of the fifteenth century, but dismantled by Rao Māldeo (1532-69) to find material for the Pokaran fort. The site of Sātalmer is still marked by a conspicuous Jain temple and the monuments raised to the memory of the deceased members of the Thākur's family. Close to the town of Pokaran is a salt marsh about 4 miles in length and 2 in breadth, where salt was formerly manufactured. The estate of Pokaran consists of 100 villages, yielding a revenue of about a lakh. The Thākurs of Pokaran are the head of the Champāwat sept of the Rāthors, and are descended from Champā, a brother of Rao Jodha. They enjoy the privilege of attesting all grants of land or villages made by the Darbār, and are entitled to a seat just behind the Mahārājā of Jodhpur on an elephant, from which, on state occasions, they flourish the *morchal*, or peacock feather fly-whisk, over their chief's head. The present Thākur of Pokaran (Mangal Singh), besides being the *pradhān* or premier noble, is a member of the council and a Rao Bahādur.

Pol.—Petty State in MAHĪ KĀNTHA, Bombay.

Polavaram Subdivision. — Subdivision of Godāvari District, Madras, consisting of the minor *tāluks* of POLAVARAM, CHODAVARAM, and YELLAVARAM.

Polavaram Tāluk.—Minor *tāluk* in the Agency tract of Godāvari District, Madras, lying between 17° 7′ and 17° 28′ N. and 81° 5′ and

81° 37′ E., with an area of 564 square miles. The population in 1901 was 58,274. It contains 292 villages, Polavaram being the head-quarters. The demand for land revenue and cesses in 1903–4 amounted to Rs. 64,000. The *tāluk* is situated on the right bank of the Godāvari river. At the point where the river enters stands BISON HILL, which belongs to the Pāpikonda range, running the whole length of the *tāluk*. There are extensive forests in Polavaram, the Government Reserves extending over 112 square miles. About 20 per cent. of the inhabitants belong to the hill tribe of Koyis. The picturesque island of Pattisima, a little below Polavaram village, is the scene of a large yearly festival; and another festival is held at Taduvayi in the interior.

Pollāchi Subdivision. — Subdivision of Coimbatore District, Madras, consisting of the *tāluks* of POLLĀCHI, PALLADAM, and UDAMALPET.

Pollāchi Tāluk.—South-west *tāluk* of Coimbatore District, Madras, lying between 10° 15′ and 10° 55′ N. and 76° 49′ and 77° 16′ E., with an area of 710 square miles. The population increased from 183,669 in 1891 to 195,608 in 1901. It contains one town, POLLĀCHI (population, 8,958), the head-quarters; and 158 villages. The demand for land revenue and cesses in 1903–4 was Rs. 3,04,000. The north of the *tāluk* consists of an undulating plain, but the southern portion is covered by the great Anaimalai Hills and their dense forests. The former faces the Pālghāt Gap in the Western Ghāts, and consequently receives some of the south-west monsoon which is prevented by this range from reaching the east of the District, and so has an early cultivation season. The *tāluk* contains less irrigated land than any other except Kollegāl, but its 'dry' land is usually good and includes some black loam on the extreme east. Nearly half the small extent of *zamīndāri* land in the District lies in this *tāluk*.

Pollāchi Town.—Head-quarters of the *tāluk* of the same name in the south-west corner of Coimbatore District, Madras, situated in 10° 39′ N. and 77° 1′ E. Population (1901), 8,958. Standing on the highway from the east to the west coast, it must always have been an important market town. Evidence of its early importance was discovered in 1800, in a hoard of silver coins of the emperors Augustus and Tiberius. It has, however, no industry except agriculture. The divisional officer is stationed here. The hospital at Pollāchi has accommodation for 36 in-patients and a maternity ward. It was founded in 1858, the building being erected by private subscription, and has an endowment of Rs. 17,700. In the vicinity of the village are a number of interesting dolmens and rude stone circles, which are termed by the people 'graves of the dead.' Several of them have been opened, and have been found to be arranged in circles

of diameters ranging from 10 to 45 feet, and to contain fragments of human skulls and bones, and occasionally broken pieces of earthenware and a few implements and ornaments. These objects were usually met with at a depth of from 5 to 7 feet below the surface. Three bronze images of male and female figures were found; and that these are of non-Aryan origin is to be inferred from the position of the woman, who is seated at the right side of her husband, instead of the left side as in all Brāhmanical rites.

Polūr Tahsīl (or Sūlūrpet).—*Zamīndāri tahsīl* in the southern corner of Nellore District, Madras, lying between 13° 30′ and 13° 59′ N. and 79° 51′ and 80° 9′ E., and bounded on the east by the Bay of Bengal. Its area is 355 square miles, and the population in 1901 was 74,512, compared with 69,593 in 1891. It contains 139 villages, the head-quarters being Sūlūrpet. There is only one river of importance, the Swarnamukhi, which supplies some of the tanks. The soil is generally sandy or gravelly, and the principal crop is rice, though *rāgi* and *cambu* are also grown. Irrigation is mostly from rain-fed tanks.

Polūr Tāluk.—Southern *tāluk* of North Arcot District, Madras, lying between 12° 20′ and 12° 45′ N. and 78° 51′ and 79° 22′ E. Area, 596 square miles; population in 1901, 155,673, compared with 139,701 in 1891. The *tāluk* contains 170 villages and one town, POLŪR (population, 9,206), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 3,02,000. The *tāluk* is essentially a mountainous area, a large part of it being occupied by the JAVĀDI HILLS. The forests have great potential value, and yield a considerable amount of timber and other produce.

Polūr Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 31′ N. and 79° 7′ E. Population (1901), 9,206. It stands about 2 miles from the northern bank of the Cheyyār, and east of some hills. Between these is built the embankment of the Polūr reservoir, which is fed by the waters of the Manjalār. The Sampatgiri hill near by is topped by a holy temple, and there is another shrine in the town. A small ruined fort, without any history, stands not far off. The town is poorly built, with narrow and ill-arranged streets, but has a brisk trade in grain.

Ponābālia Shāmrail.—Village in the head-quarters subdivision of Backergunge District, Eastern Bengal and Assam, situated on the bank of the Sundha or Shugandha, 5 miles from Jhālakāti. Population (1901), 498. Rām Bhadra Rai, *zamīndār* of Ponābālia, is said to have defeated the Marāthā army here in 1748. The village contains a temple of Siva, which is one of the fifty-one places of Hindu pilgrimage, scattered over India, where tradition relates that a limb or some portion of the body of the goddess Satī fell, while her husband Siva was

perambulating the whole earth with her corpse on his shoulders. The nose of the goddess is said to have fallen at this place.

Ponāni. — *Tāluk* and town in Malabar District, Madras. *See* PONNĀNI.

Pondicherry (*Puducheri*, *Pulcheri*).—The chief of the French Settlements in India, the capital of which, a town of the same name, is the head-quarters of their Governor. The town is situated on the Coromandel coast in 11° 56′ N. and 79° 49′ E., about 12 miles north of Cuddalore. It lies on the road leading from Madras to Cuddalore, and is the terminus of the Villupuram-Pondicherry branch of the South Indian Railway. The distance from Madras to Pondicherry is 122 miles by rail and 105 by road. The area of the Settlement is 115 square miles, and its population in 1901 numbered 174,456. It consists of the four communes of Pondicherry, Oulgaret, Villenour, and Bahūr. The population of the town of Pondicherry in the same year was 27,448, of whom 12,904 were males and 14,544 females. Hindus numbered 14,544 and Christians 7,247, most of the latter being Roman Catholics. The history of the place is given in the article on the FRENCH POSSESSIONS. The Settlement was founded in 1674 under François Martin. In 1693 it was captured by the Dutch, but was restored in 1699. It was besieged four times by the English. The first siege under Admiral Boscawen in 1748 was unsuccessful. The second, under Eyre Coote in 1761, resulted in the capture of the place, which was restored in 1765. It was again besieged and captured in 1778 by Sir Hector Munro, and the fortifications were demolished in 1779. The place was again restored in 1785 under the Treaty of Versailles of 1783. It was captured a fourth time by Colonel Braithwaite in 1793, and finally restored in 1816.

The Settlement comprises a number of isolated pieces of territory which are cut off from the main part and surrounded by the British District of South Arcot, except where they border on the sea. This fact occasions considerable difficulty in questions connected with crime, land customs, and excise. The Collector of South Arcot is empowered to deal with ordinary correspondence with the French authorities on these and kindred matters, and in this capacity is styled the Special Agent. At Pondicherry itself is a British Consular Agent accredited to the French Government, who is usually an officer of the Indian Army. The town is compact, neat, and clean, and is divided by a canal into two parts, the Ville blanche and the Ville noire. The Ville blanche has a European appearance, the streets being laid at right angles to one another, with trees along their margins reminding the visitor of continental boulevards, and the houses being constructed with courtyards and embellished with green venetians. All the cross streets lead down to the shore, where a wide promenade facing the sea is again different

from anything of its kind in British India. In the middle is a screw-pile pier which serves, when ships touch at the port, as a point for the landing of cargo and, on holidays, as a general promenade for the population. There is no real harbour at Pondicherry; ships lie at a distance of about a mile from the shore, and communication with them is conducted by the usual *masula* boats of this coast. Facing the shore end of the pier is a statue of the great Dupleix, to whom the place and the French name owed so much. It is surrounded by a group of carved stone columns which are said to have been brought from the ruins of the celebrated fort of GINGEE. Behind is the Place Dupleix (or Place de la République) with a band-stand; and west again of this the Place du Gouvernement, a wide extent of grass with a fountain in the middle of it, round which stand the chief buildings of the town, including Government House, the Hôtel de Ville, the High Court, and the barracks. Other erections in the town are the Secretariat, the Cathedral of Notre Dame des Anges, the college of the Missions Étrangères, the Calve college, two clock-towers, a lighthouse, the hospital, and the jail. The town also contains a public library of about 16,000 volumes, and public gardens with a small collection of wild animals and birds.

Pondicherry was made a municipality in 1880, with a mayor and a council of eighteen members. The receipts and expenditure of this body during the ten years ending 1902 averaged Rs. 47,000. There is no drainage system; but the water-supply is excellent, being derived from a series of artesian wells, which are one of the features of the place. Until they were discovered, about the middle of last century, the only source of supply was from ordinary wells sunk within the town. The best of the present artesian sources is at Mudrapālaiyam, from which pipes have been taken to reservoirs in the market and the Place du Gouvernement. The roads of the town are kept in excellent order. The ordinary means of locomotion is the well-known 'push-push,' which is pushed and pulled by two men. The chief educational institutions are a college belonging to the Missions Étrangères, which teaches up to the B.A. standard in French, and the Calve college, a non-denominational institution in which both Europeans and natives receive instruction up to the Matriculation. The latter is affiliated to the Madras University. The industries of Pondicherry consist chiefly of weaving. The Patnūlkārans, a Gujarāti caste of weavers, make a kind of zephyr fabric which is much used locally and is also exported largely to Singapore. Cotton stuffs are also woven by machinery in the Rodier, Savana, and Gaebelé mills. A new industry is the manufacture of cocotine, a substitute for *ghī*, at the Sainte Elisabeth factory. The total value of the imports by sea in 1904 was £179,000, and of the exports £1,102,000, of which £27,000 and £435,000 respectively were brought from and sent to

France or French colonies. The principal imports are wines and spirits and areca-nuts, but the total is made up of a number of items of which none is individually important. The exports mainly consist of ground-nut kernels and oil; but cotton fabrics, coco-nut oil, and rice are also items of importance. The boats of the Messageries Maritimes Company call regularly at the port.

Ponmudi.—A picturesque hill in the north-east of the Nedumangād *tāluk* of Travancore State, Madras, situated in 8° 44′ N. and 77° 10′ E., at the head of the basin of the Vāmanapuram river. It is about 3,000 feet high and contains a sanitarium which is largely visited. Tea is extensively grown in the neighbourhood, and a company called the Ponmudi Tea Company has been formed.

Ponnagyun.—Central township of Akyab District, Lower Burma, lying between 20° 11′ and 21° N. and 92° 48′ and 93° 6′ E., with an area of 704 square miles. The township is long and narrow, and comprises a considerable portion of the country lying between the Kaladan and Mayu rivers. In the south, where it borders on the Akyab township, it is a network of tidal creeks; in the north it is hilly. The population increased from 44,700 in 1891 to 49,555 in 1901. It contains 290 villages, and the head-quarters are at Ponnagyun (population, 565), among the southern creeks. The area cultivated in 1903–4 was 106 square miles, paying Rs. 1,62,000 land revenue.

Ponnaiyār (or Ponniār; the *Dakshina Pinākini* or Southern Pennār).—River of Southern India, which rises on Channarāyanbetta, north-east of Nandidroog in the Kolār District of Mysore, and runs through the east of Bangalore District, forming the large Jangamkote and Hoskote tanks. Leaving Mysore to the east of Sarjapur, it flows south-east through the Salem District of Madras (where it is crossed by the Madras Railway), and, some distance north of Dharmapuri, turns east to South Arcot District, and falls into the sea to the north of Cuddalore. Its length in Mysore is about 50 miles, where about 86 per cent. of its water is stored for agricultural purposes. It flows through the Madras Presidency for about 200 miles, and the area of its drainage basin is 6,200 square miles. The river is bridged near Cuddalore, and also at the point (near Panruti) where it is crossed by the South Indian Railway. Its only considerable tributary is the Pāmbār, which joins it on the left bank in Salem District. In South Arcot the Ponnaiyār runs in a wide sandy bed between low banks. At one time it seems to have flowed down the Malattār ('barren river'), which is now merely a small branch into which it occasionally spills at high floods; for ancient Tamil works speak of Tiruvennanallur, which is now on the southern bank of the Malattār, as lying on the southern edge of the Ponnaiyār. The river is very liable to sudden high freshes, and serious floods occurred in 1874, 1884, and 1898, those of 1884

being the worst. The Ponnaiyār and the neighbouring Gadilam river overflowed and joined, and for twenty-four hours their combined waters rushed through Cuddalore New Town to the sea. Thirteen arches of the bridge over the Ponnaiyār were swept away and much other damage was done.

The river is not at present utilized for irrigation on any considerable scale until near the end of its course. The dam near Tirukkoyilūr in South Arcot waters about 24,000 acres, from which the total revenue is Rs. 93,000. Of this, about Rs. 11,000 is due to the improvements made, representing an interest of over 4 per cent. on the capital outlay. The construction of a dam higher up the river, to supply a large area in two of the upland *tāluks* of the same District, has been suggested.

Like other large rivers, the Ponnaiyār is sacred. It is deemed especially so in the first five days of the Tamil month of Tai, when the Ganges is said to flow into it by underground ways. Festivals are then celebrated at many of the important villages along its banks.

Ponnāni Tāluk.—Southernmost coast *tāluk* of Malabar District, Madras, lying between 10° 15′ and 11° 3′ N. and 75° 52′ and 76° 13′ E., with an area of 426 square miles. It contains 73 *amsams*, or parishes. The population increased from 449,290 in 1891 to 478,376 in 1901, giving a density of 1,123 persons per square mile. It is the most populous *tāluk* in the District, and the density is greater than in any other in the Presidency. The land revenue demand in 1903–4 amounted to Rs. 5,19,000. The head-quarters are at the seaport of PONNĀNI (population, 10,562), situated at the mouth of the river of the same name. In comparison with the other *tāluks* of the District, Ponnāni is flat and uninteresting, especially along the coast. Inland, however, are some small ranges of low hills, clothed with scrub or rough grass; and between these, as usual in Malabar, wind green rice-fields fringed with groves of trees.

Ponnāni Town.—Head-quarters of the *tāluk* of the same name in Malabar District, Madras, situated in 10° 48′ N. and 75° 56′ E., at the mouth of the Ponnāni river. Population (1901), 10,562, mostly Māppillas. It is a busy port[1], at which in 1903–4 the imports were valued at 8 lakhs and the exports at 6 lakhs. Kerosene oil and salt are the chief imports, and coco-nuts, coir, and copra the chief exports. The Ponnāni Tangal, or Māppilla priest, is the chief of his sect, and the town is the centre of Muhammadan education on the coast, possessing a religious college. There are 27 mosques, the principal of which, the

[1] Some English ships, under Captain Bonner, visited Ponnāni (Ponana) in 1619, and unsuccessfully attempted to purchase pepper from the Zamorin, who was then residing there (W. Foster, *The English Factories in India*, p. 71).

Jamāth Masjid, is supposed to have been built in 1510. Besides the usual *tāluk* offices, the town contains a District Munsif's court.

The Ponnāni river, which is the longest in Malabar, rises in the Anaimalais and flows through the Pālghāt Gap due west, with a total course of about 150 miles. The bed of the stream, unlike that of most of the Malabar rivers, is shallow and usually contains little water; but during the rainy months it is navigable for a considerable distance inland, and is used for floating down timber from the hills near Pālghāt. At its mouth it is connected by backwater with Tirūr station on the north, and by canal with the Viyattil lake and the line of backwater which extends to Trivandrum on the south.

Ponne.—River in North Arcot District, Madras. *See* POINI.

Ponneri.—Northern *tāluk* of Chingleput District, Madras, lying between 13° 11′ and 13° 34′ N. and 80° 2′ and 80° 21′ E., on the shore of the Bay of Bengal, with an area of 347 square miles. The population in 1901 was 136,597, compared with 122,418 in 1891. It contains the town of PULICAT (population, 5,448) and 240 villages (including the head-quarters, Ponneri). The demand on account of land revenue and cesses in 1903-4 amounted to Rs. 2,70,000. The Korttalaiyār and Araniya Nadī flow through the *tāluk*, which is an uninteresting tract of nearly level land sloping towards the sea. The coast is fringed with a line of hillocks of blown sand, inside which are a series of backwaters connecting Ennore with the Pulicat Lake. The annual rainfall is 47 inches, or slightly more than the District average.

Poodoocottah.—Native State in Madras. *See* PUDUKKOTTAI.

Poona Agency, The.—Political Charge, consisting of the State of Bhor in the south-west of Poona District, Bombay. *See* BHOR.

Poona District (*Puna*).—District in the Central Division of the Bombay Presidency, lying between 17° 54′ and 19° 24′ N. and 73° 19′ and 75° 10′ E., with an area of 5,349 square miles. It is bounded on the north by the District of Ahmadnagar; on the east by Ahmadnagar and Sholāpur; on the south by the Nīra river, separating it from Sātāra and the estate of the chief of Phaltan; and on the west by Kolāba. Two isolated blocks of the Bhor State, one in the west and the other in the south, are included within the limits of Poona District.

Physical aspects.

Towards the west the country is undulating and intersected by numerous spurs of the Western Ghāts, which break off in a south-easterly direction, becoming lower as they pass eastwards, and in the end sinking to the general level of the plain. On the extreme western border the land is so rugged and cut up by valleys and ravines that on the slopes and sides of the hills a system of spade tillage takes the place

of ordinary cultivation by ploughs and bullocks. Along the western border of the District the Western Ghāts form a barrier inaccessible, except by a few difficult passes or *ghāts*. Of these, the Borghāt, traversed by both a road and a railway, is the only line fitted for wheeled vehicles. The ridges, which form the main line of the mountains, have the flat tops and steep sides common to basaltic hills. Within the limits of the District not a few of the hills have had their sides hewn into rock temples, or their summits crowned with fortresses. Many streams rise in the Western Ghāts, and flow eastwards, until they join the BHĪMA river, which passes through the District from north-west to south-east. The main tributaries are, on the left the Vel and Ghod, and on the right the Bhāma, Indrāyani, Mulā, and Nīra. The water of the rivers is good for all purposes, and all of them are sources of supply to the many villages along their banks. Poona is well supplied with water from six artificial lakes, of which the chief is the Kharakvasla lake, 10 miles south-west of Poona city, with an area of $5\frac{1}{2}$ square miles.

Almost the whole rock of Poona is stratified trap. In many parts of the hilly portion of the District the hill-tops are crowned with collars of trap resembling the walls of a fortress. Beds of basalt and amygdaloid alternate, their upper and lower planes being strikingly parallel with each other and apparently with the horizon.

Poona District, lying as it does partly on the Western Ghāts, possesses a varied flora, of the Konkan or Ghāts type on the west, passing into the Deccan type in the east. The chief plants of the Konkan type are *Clematis hedysarifolia*, *Dillenia pentagyna*, *Bocagea Dalzellii*, *Cocculus macrocarpus*, *Capparis Moonii*, *Garcinia indica*, *Thespesia Lampas*, *Kydia calycina*, *Sterculia colorata*, *Erinocarpus Nimmoanus*, *Linum mysorense*, *Impatiens*, *Heynea trijuga*, *Gymnosporia Rothiana*, *Smithia*, *Desmodium*, *Mucuna*, *Careya*, *Casearia*, and *Begonia*. Of the Deccan type the following are a few familiar examples: *Clematis triloba*, *Fumaria*, *Capparis*, *Flacourtia*, *Abutilon muticum*, *Triumfetta rhomboidea*, *Tribulus terrestris*, *Ailanthus excelsa*, *Balanites Roxburghii*, *Boswellia serrata*, *Heylandia latebrosa*, *Taverniera Nummularia*, *Dichrostachys cinerea*, *Mimosa hamata*, *Acacia arabica*, *Anagallis arvensis*, and *Caralluma fimbriata*. The commonest road-side trees are the *pīpal* (*Ficus religiosa*), *vada* (*Ficus bengalensis*), *nandruk* (*Ficus retusa*), *pipri* (*Ficus Tsiela*), *umbar* (*Ficus glomerata*), *karanj*, tamarind, mango, *jāmbul* (*Eugenia Jambolana*), and *babūl*. Oranges, limes, grapes, figs, plantains, and guavas are grown and are of good quality.

The spread of tillage and the increase of population have greatly reduced the number of wild animals. Tigers, leopards, and bears are found only in the Western Ghāts, and even there in small numbers. The *sāmbar* and the spotted deer are rare, and bison is now unknown.

The wolf is found in small numbers over the whole District. Wild hog abound in the *babūl* groves on the banks of the Bhīma and Ghod, in the western hill forests, and, since the opening of the Muthā canal (1873), in the neighbourhood of Poona. The antelope and the Indian gazelle, and sometimes the hog deer, are found in the hills. The District is poorly supplied with game-birds. Except for quail, and on rare occasions for duck and snipe, no large bags are made in the District. Snakes are numerous but mostly harmless. The rivers and streams are fairly stocked with fish, about thirty kinds being offered for sale in the Poona market. During the rains, and still more towards their close, when the waters of the streams dwindle into chains of pools, fish are caught in nets and traps by the chief fishing classes, the Marāthā and Kolī Bhois.

The height of the Poona plateau (1,800 feet), its freedom from alluvial deposits, and the prevalence of westerly breezes, make its dry, invigorating air better suited to Europeans than any climate in Western India. The air is lighter, the heat less oppressive, and the cold more bracing than in almost any other District of the Presidency. November to February form the Poona cold season, March to June the hot, and June to October the wet. During the cold season cool land winds prevail, with sea-breezes mostly after sundown. The hot winds, the chief characteristic of the hot season, are over by the middle of May. During the hot season the air is occasionally cooled by severe thunderstorms, bringing heavy rain and occasionally hail. The temperature falls to 48° in November and rises to 107° in May. The south-west monsoon begins about the middle of June and lasts till the end of September. The rainfall varies considerably in different parts of the District. In the western parts of the Junnar, Khed, Haveli, and Māval *tālukas* it is heavy and regular; in the central belt it is moderate; and in the Bhīmthadi and Indāpur *tālukas* on the east it is very irregular. At Lonauli on the Ghāts it averages over 185 inches annually. In Poona city 32 is the average, while farther east it does not exceed 20 inches in places.

History.

In prehistoric times Poona District is said to have formed part of the *Dandakāranya* or Dandaka forest of the Rāmāyana, infested by wild men. In very early times it was crossed by important trade routes, which led to the Konkan by such passes as the Borghāt and the Nāna pass. Ample evidence on these points is to be found in the rock-cut inscriptions at Bhāja, Bedsa, Kārli, and the Nāna pass. The history of the District commences with that of the town of Junnar, 56 miles north-west of Poona, and 16 from the rock-cut steps which lead down the Nāna pass into the Konkan. A century before Christ the town was ruled by an Andhra king. In the succeeding two centuries Buddhism established itself

at Junnar, and the circle of hills round the town became honeycombed with caves for the monks of this religion. At Bedsa an inscription of this period furnishes one of the earliest known notices of the Marāthās. Until 1290 no further evidence is forthcoming regarding the fortunes of the District; but it seems probable that it passed successively under the dominion of the early and Western Chālukyas (550–760), the Rāshtrakūtas (760–973), the Western Chālukyas (973–1184), and the Deogiri Yādavas. Under the latter, it was divided between petty Marāthā or Kolī hill chiefs. With the fall of the Deogiri Yādavas, Poona came under the dominion of Delhi, and Muhammad bin Tughlak marched against Kondāna, the present Sinhgarh fort, in 1340. The Bahmani dynasty incorporated Poona in its possessions, and held it at the time of the Durgā-devī famine (1396–1407). An interesting account of Poona under the Bahmanis has been recorded by the Russian traveller Athanasius Nikitin (1468–74). The founder of the Nizām Shāhi dynasty of Ahmadnagar, Malik Ahmad, made Junnar his head-quarters for a time. One of his successors conferred Poona as a *jāgīr* on Mālojī Bhonsla, the grandfather of Sivajī, who was born at Shivner fort, close to Junnar, in 1627. The emperor Shāh Jahān about this period penetrated into the Deccan and recovered for the Mughals the northern portions of the District. With the rise of Sivajī, Poona became the scene of conflict between the Marāthās and the Delhi emperors, the former holding the forts and passes in the hills and the latter the open country. To this period belongs one of Sivajī's most famous exploits, the capture of Sinhgarh. An expedition of Aurangzeb into the Deccan led to the capture and death of Sivajī's son Sambhājī, and the temporary re-establishment of the Mughals. Sambhājī's son Sāhū recovered the District from Aurangzeb, and thenceforward it remained under the rule of the Peshwās, of whom the first, Bālājī, was Sāhū's minister. For the next hundred years (1714–1817) Poona was the seat of the Peshwās, the heads of the great Marāthā confederacy. Bājī Rao Ballāl, second Peshwā, instituted the *dakshina* or money gifts to learned Brāhmans that led to the foundation of the Deccan College. His successor Bālājī Bājī Rao brought the Marāthā power to its zenith, though destined to witness, at the close of his rule, the disastrous defeat of Pānīpat (1761). The subsequent years are full of stirring events, when the Peshwās first opposed the Nizām and Haidar Alī, and subsequently allied themselves with different members of the Marāthā confederacy in the hope of raising a barrier against the advancing power of the British. In these intrigues they were ably assisted by the famous minister Nāna Farnavīs. Alternately the ally of Sindhia and Holkar, both of whom in turn plundered Poona city (1798 and 1802), Bājī Rao Peshwā was finally brought into conflict with the British owing to

the murder of Gangādhar Shāstri, the minister of the Gaikwār of Baroda, whose safety they had guaranteed. In the Treaty of Poona an attempt was made by Bājī Rao Peshwā to conciliate the British power; but a subsequent resort to force led to the battle of Kirkee on November 5, 1817, and to the end of Marāthā rule in the District. After annexation the District was managed by Mr. Elphinstone, the former Resident at the court of the Peshwā. In 1826 the Rāmosis rose in revolt, and were joined by the Kolīs from the hilly western tracts. This rising and a similar one in 1844 were quelled without much difficulty. Since then, the most notable chapter in the history of the District is connected with the disaffection that arose in Poona city in 1897 over the measures taken to check the spread of the plague. Discontent was rife, and ended in the murder of the special plague officer, Mr. Walter Rand of the Civil Service. The subsequent deportation and imprisonment of certain leading citizens, together with the establishment of a strong punitive police post, put an end to acts of violence; and the peace of the District has since remained unbroken.

The earliest historical remains are the caves of JUNNAR. The inscriptions in these caves and at the Nāna pass in the vicinity are of special interest, being the oldest known Brāhmanical inscriptions yet discovered. Later in date are the Buddhist caves at KĀRLI, BHĀJA, BEDSA, and Shelārwādi, probably all dating from the first and second centuries after Christ. Later Hindu dynasties have left the Saivite rock temple at Bhāmbhurda, 2 miles west of Poona, and scattered Hemādpanti remains varying from the tenth to the thirteenth century, which it is customary to attribute to the Gauli-rāj, or Deogiri Yādavas. The chief Hemādpanti remains are the Kukadeshwar temple at Pur 10 miles north-west of Junnar, the tanks of Belhe 21 miles north-east of Junnar, and Pabal 21 miles north-east of Poona; transformed mosques at Poona, Junnar, and Sāsvad; and the Ganga and Jumna rock-cut reservoirs on the top of Shivner fort in Junnar.

Population.

The number of towns and villages in the District is 1,189. Its population at each of the last four enumerations was: (1872) 922,439, (1881) 901,828, (1891) 1,067,800, and (1901) 995,330. The decline in 1881 was due to the famine of 1876–7, while the decrease in 1901 is chiefly due to the famine of 1900 and to plague. In both famines the eastern portion of the District suffered severely.

The distribution of the population by *tālukas* in 1901 is shown in the table on the next page.

The chief towns are: POONA CITY, KIRKEE, JUNNAR, BĀRĀMATI, SIRŪR, LONAULI, SĀSVAD, INDĀPUR, TALEGAON-DĀBHĀDE, KHED, and

ALANDI. The villages with population exceeding 5,000 are TALEGAON-DHAMDERE, OTŪR, GHOD, MANCHAR, and PANDARE. Of the total population, 93 per cent. are Hindus, 5 per cent. Musalmāns, 10,703 Jains, and 14,484 Christians. Marāthī is the chief language, being spoken by 90 per cent. of the population.

Tāluka.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Junnar . . .	591	1	158	117,753	199	+ 1	5,020
Khed . . .	876	2	176	113,449	179	− 5	4,726
„ Ambegaon *petha*		...	66	42,826		− 2	1,372
Sirūr	601	1	78	65,992	110	− 23	3,160
Māval . . .	385	2	162	65,176	169	− 3	3,346
Haveli . . .	823	2	156	299,988	397	− 2	35,685
„ Mulshi *petha*		...	79	26,967		− 9	421
Purandhar . . .	470	1	90	72,716	155	− 18	3,341
Bhīmthadi . . .	1,036	1	78	80,814	119	+ 9	3,081
„ Dhond *petha*		...	50	42,754		− 36	3,524
Indāpur . . .	567	1	85	66,895	118	− 6	2,130
District total	5,349	11	1,178*	995,330	186	− 7	65,806

* According to the latest returns of the Agricultural department, the number of villages is 1,205.

The Hindu population is largely composed of Marāthās and allied castes, of which a description will be found in the article on the BOMBAY PRESIDENCY. The local Brāhman sub-caste is the Deshasth, who form 60 per cent. of the total number. Next to Deshasths in importance are the Chitpāvans or Konkanasths (14,000), a sub-caste that came from the Konkan, and rose to a position of great power in the days of the Peshwās, who themselves belonged to this sub-caste. Many Brāhmans are money-lenders, general traders, and landholders. The Marāthās of the old fighting class number 333,000, or one-third of the total population; while Marāthā Kunbīs, who are closely allied to them though socially inferior, number 98,000. An important cultivating caste is the Māli or gardener (61,000). In the hilly western portion of the District the land is for the most part in the hands of Kolīs (46,000). Dhangars or shepherds number 42,000. Mahārs (82,000) and Māngs (22,000), the depressed classes, who probably represent primitive tribes dispossessed by the Aryans, are numerous, a few families being found in almost every village, where they occupy a hamlet apart from the houses of their better caste neighbours. The vicinity of Bombay city induces many of the labouring classes to seek work in that place during the busy season. The emigrants are chiefly drawn from the Ghats villages, where the peasants are much involved in debt, and are known in Bombay as *ghātīs*. Rāmosis or professional watchmen (22,000), widely distributed throughout the

District, once formed part of the Marāthā fighting forces. Chamārs or leather-workers number 18,000. Musalmāns (46,000) are chiefly Shaikhs (27,000), a term loosely used to designate either converts from Hinduism or descendants from Arab invaders. In Junnar they are an indication of the former predominance of the Musalmān kingdom of Ahmadnagar. Agriculture supports 57 per cent. of the population, and industries and commerce 15 and 2 per cent. respectively.

In 1901 the native Christians, who numbered about 8,000, included 3,765 Roman Catholics, 1,131 of the Anglican communion, 117 Presbyterians, and 243 Methodists. The Church of England Mission has a branch known as the Panch Houd Mission in Poona city and another small branch in the Haveli *tāluka*, which perform social, educational, and religious work among both sexes. The Church Missionary Society carries on evangelistic work in seven stations and maintains in Poona city a divinity school, where natives are trained as catechists. Closely connected with it is the Zanāna Bible Medical Mission, working among women. The Church of Scotland Presbyterian Mission, with its head-quarters in Poona cantonments, maintains a hospital in Poona city, a boarding-house, orphanage, and 23 schools, of which 11 are for girls. The United Free Church of Scotland Mission, established in 1882, has branches at Lonauli and Sāsvad; and the Methodist Episcopal Mission, established in 1873, maintains a home for Eurasian boys and girls and four boys' schools in Poona city. The American Marāthī Mission, established in 1855 at Sirūr, maintains two orphanages, and several schools for low-caste children, in which special attention is paid to industrial training. An energetic Brāhman lady, Panditā Rāma Bai, established in the Bhīmthadi *tāluka* in 1896 the undenominational Mukti Mission, which comprises a church, school, printing press, and a large boarding establishment, costing Rs. 80,000 a year and financed from Great Britain, Australia, and America. The Poona Village and Indian Mission, styled interdenominational and embracing all the Protestant sects, was established in 1895; it has three stations in the Bhor State and maintains a hospital, two orphanages, and a school. Among minor establishments are the Zanāna Training Home at Wanowri, a Boys' Christian Home at Dhond, the St. Vincent of Paul Society for the relief of the poor, and the St. Anthony's bread guild which provides clothing and rations for the destitute. The Salvation Army has branches at Sirūr and Talegaon-Dhamdhere.

Agriculture.

In Poona all arable land comes under one or other of three great heads—'dry-crop' land, watered land, rice land. The *kharīf* or early crops are brought to maturity by the rains of the south-west monsoon; the *rabi* or spring crops depend on dews, on irrigation, and on the small cold-season showers which

occasionally fall between November and March. The principal *kharīf* crops are spiked millet (*bājra*), mixed with the hardy *tur*, and *jowār*. These are sown late in May or in June, and are reaped in September and October or November. In the wet and hilly west the chief harvest is the *kharīf*, which here consists of rice and hill millets, such as *rāgi* and *vari*. The *rabi* crops are sown in October and November, and ripen in February and March. They are chiefly the cold-season Indian millets, such as *shālu*, *tāmbdi*, and *dudhmogra*, and wheat, together with gram, lentils (*masur*), *kulith*, and other pulses. As in other parts of the Deccan, the chief kinds of soil are black, red, and *barad* or stony. The black soil, found generally near rivers, is by far the richest of these. The red soil is almost always shallow, and coarser than the black. The stony soil is found on the slopes of hills. It is merely trap rock in the first stage of disintegration; but, if favoured by plentiful and frequent rains, it repays the scanty labour which its tillage requires. With four bullocks, a Kunbī can till some 60 acres of light soil. The same area of shallowish black soil requires six or eight bullocks. Eight bullocks can till 50 acres of deep black soil. Many husbandmen possess less than the proper number of cattle, and have to join with their neighbours for ploughing.

The District is mostly *ryotwāri*, only about 15 per cent. of the total area being *inām* or *jāgīr* estates. The chief statistics of cultivation in 1903–4 are shown below, in square miles:—

Tāluka.	Total.	Cultivated.	Irrigated.	Cultivable waste.	Forests.
Junnar	592	427	11	3	96
Khed	876	593	18	4	148
Sirūr	601	493	5	7	33
Māval	385	235	1	1	86
Haveli	823	586	18	...	103
Purandhar	470	358	16	...	38
Bhīmthadi	1,036	794	53	3	113
Indāpur	567	406	24	2	93
Total	5,350*	3,892	146	20	710

* Statistics are not available for 89 square miles of this area, which is based on the latest information.

The chief crops are *bājra* (1,100 square miles) and *jowār* (885), grown almost entirely in the eastern portion of the District. *Bājra* is sown on light lands whenever the early rains suffice. Rice occupies 110 square miles, and is grown mainly in the western portion known as the Māval. Inferior hill millets, with wheat, peas, beans, and gram as second crops after rice, are grown in the Māval when the moisture is sufficient. The central belt grows a variety of products. Its cereal is *bājra*, and the chief oilseeds are niger-seeds and ground-nuts. Safflower covers 92 square miles. Wheat (126 square miles) is grown

as a 'dry crop' in a considerable area in the Māval and in the central portions of the District. Of pulses, which occupy about 352 square miles, the most largely grown are gram, *tur*, *math*, *kulith*, and *mūg*. Sugar-cane is extensively grown (20 square miles in 1903-4), chiefly under irrigation. Vegetables form an important market-garden crop near Poona, as also do grapes, figs, *papayas*, guavas, oranges, and other favourite fruits. Among special crops, the grape-vine (*Vitis vinifera*) is occasionally grown in the best garden land on the border of the western belt and in the neighbourhood of Poona city. The vine is grown from cuttings, which are ready for planting in six or eight months. It begins to bear in the third year, and is in full fruit in the sixth or seventh. With care, a vine goes on bearing for sixty, or even, it is said, for a hundred years. The vine is trained on a stout upright, often a growing stump which is pruned to a pollard-like shape about five feet high; this mode is said to be most remunerative. Or a strong open trellis roof is thrown over the vineyard about six feet from the ground, and the vines are trained horizontally on it; this mode is preferred by the rich for its appearance and shade, and is said to encourage growth to a greater age. The vine yields sweet grapes from January to March, and sour grapes in August. The sour grapes are very abundant, but are not encouraged; the sweet grape is tended in every possible way, but is apt to suffer from disease. After each crop the vine is pruned, and salt, sheep's droppings, and dried fish are applied as manure to each vine after the sour crop is over. Vines are flooded once a year for five or six days, the earth being previously loosened round the roots. Blight attacks them when the buds first appear, and is removed by shaking the branches over a cloth, into which the blight falls, and is then carried to a distance and destroyed. This operation is performed three times a day until the buds are an inch long.

The cultivation of sugar-cane and other valuable crops has greatly increased of late years, owing to the construction by Government of irrigation canals, as also has the use of new manures. English ploughs are used in a few places, and iron sugar-cane mills are seen everywhere. The Poona Experimental Farm, which is situated about 2 miles from the city in Bopudi village, originated in a small piece of land taken for the agricultural class at the College of Science in 1879. In 1888 it was handed over to the Agricultural department, which since that date has superintended the raising of hybrids of cotton, wheat, and *jowār*, the growing of forage crops for the use of the model dairy attached to the farm, the testing of new crops, the trial of new agricultural implements, and the distribution of seed both to agriculturists and, for scientific purposes, to experimental farms at Pusa and elsewhere. The farm is used for educational purposes by the

students of the College of Science, by junior civilians, and by visitors and agriculturists; and it is furnished with an increasing collection of soils, manures, seeds, fibres, botanical specimens, and indigenous and imported implements. A portion of the land, which measures 66 acres, is annually reserved for growing small plots of all important varieties of typical crops. A second farm at Mānjri, occupying about 45 acres, and 8 miles distant from Poona, is devoted to experiments in sugar-cane cultivation. Since 1894 attention has been directed to the system of manuring sugar-cane, to testing several methods of cultivation, to the acclimatization of imported varieties of cane, and to studying the most profitable methods of utilizing bone manure. Botanical experiments in cotton and wheat are also carried out. A sewage-farm, on which sugar-cane, fodder, ground-nuts, maize, and sweet potatoes are grown, forms part of the Mānjri Farm. The model dairy farm at Kirkee contains 68 cows and 53 cow-buffaloes, and sells dairy produce of an annual value of about Rs. 24,000. The gardens at Ganeshkhind are maintained for botanical and experimental purposes, and are in charge of the Economic Botanist. They contain excellent mango orchards. Advances to agriculturists under the Land Improvement and Agriculturists' Loans Acts amounted during the decade ending 1904 to 21·4 lakhs. Of this sum, 11 lakhs was advanced in the three years 1899–1900, 1900–1, and 1901–2.

The District has ten breeds of cattle, of which the *khilāri*, or herd-cattle from West Khāndesh, are the most valuable draught animals in the Deccan. Buffaloes are common in all parts and are of eleven kinds, but the best breeds are imported from Sind, Cutch, and Gujarāt. For rice-field work the Poona cultivator prefers the buffalo to the bullock, and the cow-buffaloes supply most of the milk used in the District. Poona has long been famous for its horses, and there are few villages in east Poona without one or two brood-mares. Of eight breeds of horses the local or *deshi* variety, bred on the banks of the Bhīma and Nīra, was most esteemed by the Marāthās. The Dhangar pony, thick-set, short-legged, and strong, very unlike the ordinary village pony, is of the same breed as the Nīra pony. Horse-breeding is carried on by the Army Remount department, which maintains eight horse stallions and four pony stallions at Sirūr, Bārāmati, Dhond, and Indāpur. Donkeys are used as load-carriers by stonecutters, limeburners, potters, and washermen. Mules, chiefly cast commissariat animals, are used by charcoal-burners for carrying loads and drawing carts. Flocks of sheep are found in most large villages, and goats are common. Fowls are reared everywhere, while turkeys, geese, and ducks are found in the towns, where also many Musalmāns and some Hindus breed pigeons for amusement or profit.

Of the total cultivated area, 145·5 square miles, or 4 per cent., were irrigated in 1903–4. The areas under the various classes of irrigation sources were: Government canals, 56 square miles; private canals, 7 square miles; tanks, 6 square miles; wells, 75; and other sources, one square mile. The chief water-works made or repaired by Government are the Nīra and Muthā Canals, and the Shetphal, Mātoba, Kāsurdi, Sirsuphal, and Bhādalwādi tanks. The MUTHĀ CANALS, completed in 1878, and the reservoir from which they are fed, LAKE FIFE, command 16,800 acres; while the NĪRA CANAL, fed by LAKE WHITING, completed in 1886, commands 113,000 acres. The former supplied 7,000 and the latter 31,000 acres in 1903–4. Well-irrigation is of great importance in Indāpur and other drought-stricken parts of the east. Wells are circular, 8 to 10 feet across and 20 to 50 feet deep. Water is raised in a leathern bag. Near Poona city good crops are raised by well-irrigation for the Bombay and Poona markets, and many additional wells have been constructed out of Government loans during recent years. The District contains 22,177 wells and 27 tanks, used for irrigation purposes.

The forest lands may be roughly grouped into three classes: hill, river-bank, and upland Reserves. Except in the Sinhgarh range the hill Reserves, consisting of mixed evergreen woods and teak coppice, are found in the west. The evergreen woods yield little timber, but the teak coppices, chiefly on the slopes and terraces of the easterly spurs, furnish a valuable revenue. The groves found along the banks of almost all the larger rivers consist mostly of well-grown *babūl*. The third class of forest lands, the upland or *māl* Reserves, are found in every subdivision, but chiefly in Sirūr, Bhīmthadi, and Indāpur. The chief forest trees are: the mango, the *ain*, the *nāna* and the *bondara* (*Lagerstroemia lanceolata* and *L. parvifolia*, two closely allied species), the *hedu* (*Nauclea cordifolia*), the *kalamb* (*Nauclea parvifolia*), the *asan* (*Bridelia retusa*), the *savi* (*Bombax malabaricum*), the *dhaura* (*Conocarpus latifolia*), the teak, the *jāmbul* (*Eugenia Jambolana*), the *yela* (*Terminalia belerica*), the *dhaman* (*Grewia tiliaefolia*), the myrabolam, and the bamboo. The Forest department is in charge of about 500 square miles of 'reserved' forest in the District, and the Revenue department manages 210 square miles of fodder reserves and pasture lands. In 1903–4 the forest revenue amounted to Rs. 60,000.

Except iron, which occurs in various places as hematite associated with laterite, or as magnetic grains in stream beds, the District produces no metallic ores. The trap rock yields good building stone and road-metal almost everywhere, boulders being preferred to quarried stone. A variety of compact dark-blue basalt, capable of high polish, is worked into idols and pedestals for wooden pillars. Quartz occurs throughout the trap in various forms, either crystalline or amorphous

in the form of agate, jasper, and heliotrope. Stilbite, and its associate the still finer apophylite, though less common than quartz, are by no means rare. One magnificent variety consists of large salmon-coloured crystals 2 or 3 inches long. The other mineral products are common salt, carbonate of soda, sand for mortar, and limestone.

Trade and communications.

The chief manufactures are silk robes, coarse cotton cloth, and blankets. The Poona cotton and silk-embroidered *pagrīs* have a widespread reputation, and the brass- and silver-work of the same place is much admired. Among other special manufactures may be mentioned toys, small clay figures carefully dressed, and ornaments, baskets, fans, &c., of *khas-khas* grass, decked with beetles' wings. The manufacture of paper by hand, formerly of some importance, has of late years practically ceased. A few Musalmān papermakers are still to be found in Junnar town.

Among the factories of the District are two cotton-spinning and weaving mills, a paper-mill, a flour-mill, and a brewery. In 1904 the cotton-mills contained 308 looms and 13,924 spindles, employed 1,069 hands, and produced 1·6 million pounds of yarn and 700,000 pounds of cloth. A Government gun-carriage factory and an arms and ammunition factory at Poona and Kirkee employ about 2,100 hands. There are also railway workshops at Lonauli.

Of late years, except the development caused by cheap and rapid carriage of goods, there has been no marked change in the trade of the District. It is, generally speaking, small. The increased demand for raw sugar has led to a larger production. The raw sugar goes mostly to Bombay and Gujarāt. The chief exports are grain, raw sugar, cotton cloth, vegetables, fruits, brass-ware, and silk cloth. The chief imports are rice brought from Ahmadnagar and Thāna, wheat, salt, and copper and brass sheets. The chief agencies for spreading imports and gathering exports are trade centres, markets, fairs, village shops, and pedlars' packs. The leading merchants are Mārwār Vānīs, Gujarāt Vānīs, Bohrās, Pārsīs, and Brāhmans.

Besides about 222 miles of metalled and 913 miles of unmetalled roads, 112 miles of the Great Indian Peninsula Railway traverse the District from west to east, and this section is joined at Dhond by the north to south cross connexion from Manmād. The Southern Mahratta Railway runs from Poona southwards for a distance of about 48 miles within the District, and has nine stations in that length. Metalled roads place the District in communication with Nāsik, Ahmadnagar, Sholāpur, Belgaum, Sātāra, and Kolāba Districts. With the exception of 341 miles of unmetalled roads, all the roads are maintained by the Public Works department. The chief of them are the Bombay-Poona mail road to the foot of the Borghāt, the

Poona-Ahmadnagar road, the Poona-Sholāpur road, and the Poona-Nāsik road; while of roads maintained by the local authorities the chief are those from Manchar to Ambegaon, from Khed to Bhorgiri, from Sirūr to Nira Bridge, from Junnar to Belhe, and from Bārāmati to Patas.

Famine.

With much of its rainfall cut off by the western hills, large tracts in the east of the District have a very uncertain water-supply. During the last five hundred years there is either traditional or historical mention of at least twenty-five famines. The first was the dread calamity known as the Durgā-devī famine. Other famines are recorded in 1422, 1460 (Dāmāji-pant's), 1473, 1520, 1630, 1787, 1792, 1793, 1802–3 (ravages of Holkar's troops), 1820, 1823, 1824, 1825, 1832–8, 1844–6, 1862–7, 1876–7, 1896–7, and 1899–1902. In the year 1792–3 no rain whatever fell till October, and the price of grain rose to 8 seers for the rupee. In 1802, owing to the devastation of the country by Holkar's troops, the price of grain is said to have risen to 4 seers for the rupee. In 1824–5 and 1845–6 failure of rain caused great scarcity. In 1866–7 more than Rs. 80,000 of land revenue was remitted, and Rs. 20,000 was spent on relief to the destitute. Poona was specially affected by the famine of 1876–7. In 1896–7 the whole District suffered. At the height of the famine in May, 1897, there were 22,223 persons and 3,345 dependents on relief works and 6,566 in receipt of gratuitous relief. The number gratuitously relieved reached a maximum of 23,998 in September and October, 1897. In 1899 the practical cessation of the rain from the middle of September onward resulted in widespread failure of crops, the Dhond *petha* suffering most. As early as December the number on relief works and of those gratuitously relieved exceeded 11,000. It advanced steadily till May, when it was 65,717, in addition to 17,236 dependents on relief works and 13,237 in receipt of gratuitous relief. The latter figure rose to 28,536 in September. The relief works were kept open till October, 1902, when the daily average attendance was about 1,000, just lowered from 2,000 in the previous month. It is calculated that over 20,000 persons died from the effects of famine and 120,000 cattle perished. Including remissions of advances to agriculturists and land revenue, more than 45 lakhs was spent in the District in the last famine. The advances made to cultivators exceeded 10 lakhs.

Administration.

The District is divided into eight *tālukas* as follows: Bhīmthadi, Haveli, Indāpur, Junnar, Khed, Māval, Purandhar, and Sirūr. The Collector is assisted by two Assistant Collectors and a Personal Assistant. The petty subdivisions (*pethas*) of Dhond, Ambegaon, and Mulshi are included in the Bhīmthadi, Khed, and Haveli *tālukas* respectively. The Collector

is Political Agent for the Bhor State, which is included in the District for some administrative purposes.

The District and Sessions Judge, who is also Agent for the Deccan Sardārs, is assisted by a Small Cause Court Judge, a Special Judge under the Dekkhan Agriculturists' Relief Act, and six Sub-Judges. There are thirty-eight officers to administer criminal justice in the District. The city of Poona forms a separate magisterial charge under a City Magistrate. There are also two benches of magistrates to assist him in criminal work. There is a Cantonment Magistrate for Poona cantonment, and another at Kirkee. The commonest forms of crime are theft and housebreaking.

The earliest revenue system of which traces remained at the beginning of British rule was the *jatha*, that is, the family estate, or the *thal*, that is, the settlement system, under which the whole arable land of each village was divided among a certain number of families. The lands occupied by each family were distinguished by the original occupant's surname, even when none of his descendants remained. These holdings were called *jathas* or family estates. The head of the family was held responsible for any land revenue due for the lands belonging to the family, and was styled *mukaddam*. In theory the leading family estate and its head were responsible for the whole rental of the village, and were bound to make good the failures of minor family estates. This responsibility, however, could not be enforced, and the Government was frequently content to accept less than the full rental. Malik Ambar's settlement was introduced between 1605 and 1626. It was based on a correct knowledge of the area of the land tilled and of the money value of the crop, coupled with a determination to limit the state demand to a small share of the actual money value of the crop. It is generally thought that, under Malik Ambar's survey, areas were fixed by an estimate or *nazar-pāhāni*. The rates were intended to be permanent and were therefore moderate. Between 1662 and 1666 a more correct measurement of the land was made; but owing to the state of the country, which had suffered from war and pestilence, Malik Ambar's system had to be discontinued. In 1664 in its stead a crop division was introduced. In 1669, when Sivajī reconquered Poona, he introduced a cash rental instead of payment in kind. The settlement was by village, or *mauzawār*. The village had therefore to make good a lump sum, and the villagers were left free to arrange for the recovery of the state dues on land which had fallen waste. Land deserted by its owner became the joint property of the village, which either divided it or cultivated it jointly. Under this system Sivajī's rental was uncertain, as individual property in land had a tendency to vanish, and this led to Malik Ambar's system of a fixed money rent for the whole village being restored in

1674. The rise in the price of produce greatly reduced the state share in the out-turn of the land, and to make good this loss special cesses were levied on several occasions and under various names. This system continued till 1758, when, under the rule of Peshwā Bālājī Bājī Rao, a new and very elaborate measurement and settlement were introduced. In the times of the Peshwās the government collected its revenues through its own agents; the maximum of the land tax was fixed and only charged on lands actually under tillage, while remissions were made in bad seasons. The revenues fluctuated according to the prosperity of the country. Between 1772 and 1800, the years of the administration of Nāna Farnavīs, the management of the Peshwā's land revenue was perhaps more efficient than at any other time. In the reign of Bājī Rao II the practice of farming the revenue for short terms to the highest bidder was introduced. The charges involved by this system aggravated the evils of its predecessor. Much hardship resulted from the exactions of these temporary revenue farmers.

The assessment introduced at the beginning of British rule when prices were high pressed heavily on landholders in seasons either of bad crops or of low prices. Consequently the leading features of the revenue system before 1856 were high assessment and large remissions. About 1825, when distress was acute, Mr. Pringle was appointed to survey the District and revise the assessment. His survey settlement was introduced over the whole District between 1829 and 1831. The measure proved a failure, partly from the heaviness and inequality of the assessment in a period of bad seasons and partly from the malpractices of Mr. Pringle's establishment. The defects were early foreseen and the new rates were soon discontinued. The first settlement confirmed for thirty years was introduced into the District between 1836 and 1854. About 1855 a regular revenue survey was undertaken. A revision survey was made and introduced between 1874 and 1901. This survey found an increase in the cultivable area of 6 per cent., and the settlement enhanced the total revenue from about 6 lakhs to 12 lakhs. The average assessment per acre of 'dry' land is 9 annas, rice land Rs. 2-7, and of garden land Rs. 2.

The following table shows the collections of land revenue and of revenue from all sources, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	10,30	16,60	12,75	17,88
Total revenue . .	18,15	30,00	25,28	34,16

The District has twelve municipalities: namely, POONA CITY and Poona Suburban, SĀSVAD, JEJURI, BĀRĀMATI, INDĀPUR, SIRŪR, TALE-

GAON-DĀBHĀDE, LONAULI, KHED, ALANDI, and JUNNAR. The total income of these municipalities averages about $4\frac{1}{4}$ lakhs. Outside the municipalities, local affairs are managed by the District board and eight *tāluka* boards. The receipts of these in 1903-4 were Rs. 2,25,000, the chief source of their income being the local cess. The expenditure in the same year amounted to Rs. 2,09,000, including Rs. 87,000 spent on the construction and maintenance of roads and buildings.

The District Superintendent of police is aided by an Assistant and 3 inspectors. In 1903-4 there were 18 police stations, with 16 chief constables, 3 European constables, 231 head constables, and 988 constables. The mounted police numbered 28, under 4 European constables and 6 *daffadārs*. The Yeraoda Central jail, intended for the confinement of all classes of prisoners, as well as for relieving District jails throughout the Presidency, is situated 3 miles north of Poona city. It has accommodation for 1,580 prisoners, and in 1904 the average daily number of prisoners was 1,452, of whom 40 were females. The present structure was built altogether by convict labour. The prisoners are employed outside the walls in gardens, and are hired out to contractors for unskilled labour. Inside the prison various industries are carried on, including weaving, carpet-making, coir-work, cane-work, and carpentry. A printing press has recently been established. There are 10 subsidiary jails and 12 lock-ups, with accommodation for 125 and 181 prisoners respectively. A reformatory school for juvenile offenders at Yeraoda is under the supervision of the Educational department.

Poona stands seventh as regards literacy among the twenty-four Districts of the Presidency. In 1901, 6·6 per cent. of the population (11·7 males and 1·5 females) could read and write. Education has made much progress of late years. In 1855-6 there were only 95 schools, with a total of 4,206 pupils in the District. In 1881 the number of pupils rose to 15,246, in 1891 to 30,370, and in 1901 was 25,963. In 1903-4 there were 411 schools with 24,801 pupils, of whom more than 4,400 were females. These schools include 22 private schools with 417 pupils. Among the public institutions are 2 Arts colleges (the Deccan and Fergusson), one professional college, the College of Science, 14 high schools, 21 middle schools, 341 primary schools, and 10 special schools, including a training college for male and 2 for female teachers, one workshop, and a medical class at the Sassoon Hospital. The College of Science includes engineering classes, agricultural classes, a workshop, and a forestry class. The Deccan College has a law class attached to it. Out of 389 public institutions, 14 are supported by Government, 201 by local boards, 50 by municipal boards, 119 schools are aided, and 5 are unaided. The total expenditure on education in 1903-4 exceeded $6\frac{1}{2}$ lakhs, of which nearly $1\frac{1}{3}$ lakhs was recovered as fees and Rs. 52,000 was contributed

by local and municipal boards. Of the total, 25 per cent. was expended on primary schools.

In 1904 the District contained 4 hospitals and 20 dispensaries, providing accommodation for 252 in-patients. About 145,000 patients, including 3,573 in-patients, were treated in these, and 5,520 operations were performed. The total expenditure, excluding the cost of two of the hospitals and five of the dispensaries, which are maintained from private funds, was Rs. 1,47,165, of which Rs. 11,617 was paid from local and municipal funds. A lunatic asylum at Poona contained 146 inmates in 1904.

The number of persons successfully vaccinated in 1903–4 was 27,000, representing a proportion of 27 per 1,000 of population, which is much above the average for the Presidency.

[Sir J. M. Campbell, *Bombay Gazetteer*, vol. xviii (1885); W. W. Loch, *Historical Account of the Poona, Sātāra, and Sholāpur Districts* (1877).]

Poona City (*Puna*).—Head-quarters of Poona District, Bombay, situated in 18° 31′ N. and 73° 51′ E., on the Great Indian Peninsula Railway, 119 miles south-east of Bombay, and a terminus of the Southern Mahratta Railway; 1,850 feet above the level of the sea, and, in a straight line, about 63 miles from the coast. The name seems to be derived from the Sanskrit *punyapur*, or 'cleanser,' probably referring to the holy meeting of the Muthā and Mulā rivers. It is the military capital of the Deccan, and from June to October the seat of the Government of Bombay.

During the last fifty years Poona has been steadily growing in size. In 1851 its population was returned at 73,209; by 1863 it was supposed to have risen to about 80,000. At the next three enumerations it was: (1872) 118,886, (1881) 129,751, and (1891) 161,390. In 1901 it was returned at 111,381, exclusive of 41,939 in the cantonment and suburbs; total, 153,320. Hindus numbered 122,393; Muhammadans, 18,165; Christians, 8,474; Pārsīs, 1,900; and Jains, 1,473.

With the heat of April and May tempered by a sea-breeze, a moderate rainfall, and strong cool winds, the climate is agreeable, but of late years it has not been reputed to be healthy. The annual rainfall for 1891–1901 averaged 28 inches. The mean temperature in 1901 was 70°; maximum 110° (in May), minimum 43° (in December). Poona has suffered severely from the plague, which first gained a foothold in the city in January, 1897. In 1899 the mortality rose to 125 per week, or an annual death-rate of 207 per 1,000. Severe repressive measures in 1897 failed to eradicate the epidemic.

The first mention of Poona in history seems to be in 1604, when it was granted by the Sultan of Ahmadnagar to Mālojī, the grandfather of Sivajī. In 1637 the grant was confirmed in favour of Shāhjī, father of Sivajī. In 1663, during the operations conducted against Sivajī by

order of Aurangzeb, the imperial viceroy Shaista Khān took possession of the open town, from which, when surprised a few days afterwards by Sivajī, he had great difficulty in making his escape. His son and most of his guard were cut to pieces, and he himself wounded. A powerful force, however, immediately reinstated the discomfited commander. In 1667 Aurangzeb restored Poona to Sivajī; but under the sway of his successor Sambhājī, it was occupied by Khān Jahān, an officer of the emperor. On the Peshwā obtaining supremacy in the Marāthā confederacy, the chief seat of government was removed from Sātāra to Poona. In 1763 Nizām Alī of Hyderābād sacked the city and burned such parts of it as were not ransomed. In the struggle between the successive Peshwās and their nominal subordinates Sindhia and Holkar, Poona suffered many vicissitudes, until in 1802, by the provisions of the Treaty of Bassein, the Peshwā allowed a British subsidiary force to be stationed here.

The final defeat of the Peshwā Bājī Rao, and the capture of Poona in 1818, were the results of three engagements. In the battle of KIRKEE (November 5, 1817) the British forces, commanded by Colonel Burr, defeated a vastly superior force under Bāpu Gokhale. The battle of Yeraoda (November 16 and 17, 1817) occurred near where the present Fitzgerald Bridge now stands, the British guns on 'Picket Hill' commanding the position. The British troops were commanded by Brigadier-General Lionel Smith. The result was the flight of the Peshwā's army and the immediate occupation of the city by the British. The third battle, that of KOREGAON (January 1, 1818), was fought 2 miles distant from Loni, on the right bank of the Bhīma, and 16 miles from Poona. After the deposition of the Peshwā Bājī Rao II (1818), the city became the head-quarters of a British District as well as the principal cantonment in the Deccan.

The city stands on the right bank of the Muthā river. Much of the country round is barren and rocky, and to the east stretches an open plain. Not much high ground is seen to the north and west, but to the south extends a line of hills ending in the bold square rock of Sinhgarh. Close at hand, on the north, is the confluence of the streams of the Muthā and Mulā; through the heart of the city, the line of the Kharakvāsla canal, and on the south the lake and temple-crowned peak of Parvatī are objects of interest. The Kātraj aqueduct was built by an ancient Marāthā family. This duct, together with three other private aqueducts, supplies the city in ordinary years with about half the required supply of drinking-water. The other half is derived from the Muthā Right Bank Canal at three places. The main near the Parvatī bank supplements the supply from the Kātraj aqueduct. The municipality draws from the canal about 750,000 gallons a day, for which it pays Rs. 10,000 to Government. Any amount drawn in

excess of this is paid for at the rate of 3 annas per 1,000 gallons. The old water-works owe their existence to the liberality of Sir Jamsetjī Jījībhoy of Bombay, who contributed Rs. 1,75,000 towards the entire cost of Rs. 2,00,000. The new water-works for the Poona cantonment and suburbs were constructed in 1873-4, and were furnished with new settling-tanks and filter-beds in 1894-5. The maximum daily consumption from these works is 1,700,000 gallons. The pumping station is situated to the east of St. Mary's Church, the power being passed from a Poncelet wheel to three centrifugal pumps on the right bank of the canal and to a Worthington water engine on the left bank. There are five settling-tanks, with a total capacity equivalent to three days' consumption, and four filter-beds with an area of 45,000 square feet. Water is pumped from the canal into the settling-tanks and thence into the filter-beds by means of centrifugal pumps. Two reservoirs supply the cantonments and suburbs, the charge for water by meter varying from 6 to 8 annas per 1,000 gallons, according as the cost of pipes and connexions is borne by the householder or not. For three or four months in the hot season very little water is available, and pumping has to be performed almost entirely by steam-power. Gardens on every side, and groves of acacia along the banks of the rivers, give much of the neighbourhood a green, well-clothed appearance.

The city proper extends along the Muthā for about 1½ miles inland, varying in height from 30 to 70 feet above the river. Its length is about 2 miles from east to west, and its breadth about 1¾ miles, the total area being 2½ square miles. For police and other purposes the city is divided among eighteen wards or *peths*. Under the Peshwās it was divided into seven quarters, named after the days of the week. The ruined palace of the Peshwās stands in the Shanwār quarter, or Saturday ward. The palace was burned down in 1827, and all that now remains is the fortified wall. The chief streets run north and south. Though broad in parts they are all more or less crooked, none of them offering an easy carriage-way from one end to the other. From east to west the only thoroughfare is by lanes, narrow, short, and interrupted. One of these was set apart for the execution of criminals, who, in the time of the Peshwās, were here trampled to death by elephants. Most of the houses are of more than one storey, their walls built of a framework of wood filled in with brick or mud, and with roofs of tile.

East of the city is the military station, with an area of 4¼ square miles and a population of 32,777. Within cantonment limits, northwards to the Muthā-Mulā river and for 2 miles along the road leading west to the cantonment of Kirkee, are the houses of the greater part of the European population. The remaining European quarter or

Civil Lines was made a suburban municipality in 1884. In area it covers $1\frac{3}{4}$ square miles, and had in 1903–4 an income and expenditure of Rs. 31,000 and Rs. 33,000 respectively, the former chiefly derived from a house tax and octroi. The first Residency was built where the present Judge's house now stands, at the Sangam or junction of the Mulā and Muthā rivers. The compound included the site of the present Science College and the English burial-ground close to the present Sangam Lodge. The Resident's quarters contained five houses, besides out-offices for guard and escort parties. The entire block was destroyed on November 5, 1817, immediately upon the departure of Mr. Mountstuart Elphinstone to join the British forces drawn up for battle at Kirkee. There have been five European cemeteries open since the Marāthā possession of Poona—one near the old Residency, the second near the present church of St. Paul, the third in East Street, one near the rifle butts, and one on the left of the Sholāpur road. A new Residency was built near the present site of St. Paul's Church in 1819, and was accidentally burnt down in 1863. The Sangam Bridge was first built on piles in 1829, at a cost of Rs. 95,000. Sir John Malcolm opened it in 1830, under the name of the Wellesley Bridge, after the Duke of Wellington. It was rebuilt with stone in 1875, at a cost of Rs. 90,000. Holkar's Bridge was built by Mādhu Rao Peshwā, and so named because Holkar was accustomed to pitch his tents in its vicinity. Close by is 'Holkar's tomb,' so called, being a Saiva temple erected in memory of Vithojī Holkar and his wife, who was a *satī*.

As a civil station, Poona is the residence of the usual District officers and the head-quarters of the Commissioner of the Central Division. It is also the monsoon head-quarters of the Bombay Government. The garrison generally consists of European and Native infantry, artillery, and cavalry. There is a branch of the Bank of Bombay.

In addition to the Peshwā's palace, already referred to, the city contains numerous palaces and temples from one to three hundred years old, of which the chief are: Belbāg, built by Nāna Farnavīs about a century ago; the Farāskhāna, the remains of the Budhwār palace which was burnt down in 1879; Ganpati's temple; the new market, built by the Poona city municipality; the temple of Omkāreshwar; the Vishrāmbāg palace, now used as a Government high school. Other chief objects of interest, outside the Poona city municipal limits, are: the arsenal, built in 1882; the Bund gardens on the right bank of the Mulā-Muthā river; the Saiva caves of Bhāmburda, the oldest remains in Poona; Chatarshingi hill with a temple of a *devī*, where a large fair is held annually in September–October; the Western India club; the council hall; Government House, Ganeshkhind; the Poona gymkhana; Yeraoda Central jail, intended for all classes of prisoners, as well as

for relieving the overcrowding of the several District jails; the Sassoon Hospital; the Jewish synagogue; the office of the City Magistrate, formerly the jail; the Native General Library; the General Post and Telegraph office; the Record office or Poona Daftar; and the Empress Gardens at Wanowri. The total number of in-patients treated at the Sassoon Hospital in 1903–4 was 2,585, in addition to 12,110 out-patients. Other medical institutions are the Roman Catholic school hospital, the St. Margaret Hospital, St. John's Hospital, and six dispensaries, treating annually about 40,000 patients.

The city municipality, established in 1857, had an average income during the decade ending 1901 of 3½ lakhs. In 1903–4 the income was also 3½ lakhs. The chief items of income are octroi (1¼ lakhs) and conservancy tax (Rs. 39,000), while the expenditure, which amounted to 3 lakhs in 1903–4, is chiefly devoted to conservancy (1 lakh) and establishment charges (Rs. 44,000). The income and the expenditure of the cantonment fund in 1903–4 were nearly 1·8 lakhs and 1·5 lakhs respectively.

Though Poona is no longer so great a centre of trade and industry as under the Peshwās, there are still many handlooms for the weaving of fabrics of silk and cotton; and articles of brass, copper, iron, and clay are made in the city. Throughout Western India Poona workers have earned a reputation for the manufacture of cloth, silver and gold jewellery, combs, dice, and other small articles of ivory, of fans, baskets, and trays of *khas-khas* grass ornamented with peacocks' feathers and beetles' wings, and of small, carefully dressed clay figures representing the natives of India. There are now several important factories in the city and its immediate vicinity. Chief of these are the gun-carriage factory[1] and arsenal in cantonments, and the small arms and ammunition factories at Kirkee. At Dāpuri there is a large brewery. In addition there are two cotton-mills, some iron and brass foundries, and a paper-mill.

Besides a female normal school, an unaided normal class for mistresses, and a training college for preparing teachers for vernacular and Anglo-vernacular schools, and several Government and private vernacular, Anglo-vernacular, and English schools, Poona has twelve high schools and three colleges—the Deccan and Fergusson Colleges teaching up to the degrees of B.A. and first LL.B., and the College of Science with special training for civil engineers and agricultural specialists. There is a medical school attached to the Sassoon Hospital, a forest class at the College of Science, a municipal technical school, and a reformatory at Yeraoda. The total number of schools is 78 for boys with 7,205 pupils, and 4 for girls with 3,318 pupils. The city contains 2 Subordinate Judges' courts, in addition to the chief revenue,

[1] The gun-carriage factory was closed in 1907.

judicial, and other public offices. Besides the purely European clubs, Poona contains the Deccan Club, to which both Europeans and natives can belong; two native clubs, the Sarvajanik Sabha and the Deccan Sabha; and a newly opened club for ladies. The most important library is the Native General Library in Budhwār Peth.

Poonamallee.—Town and cantonment in the Saidapet *tāluk* of Chingleput District, Madras, situated in 13° 3′ N. and 80° 7′ E., on the western trunk road, 13 miles west of Madras city and 5 miles north of St. Thomas's Mount. It contains a population (1901) of 15,323 persons, and is the head-quarters of a deputy-*tahsīldār* and a District Munsif. The place was formerly a convalescent dépôt for the troops of the Madras Command, a purpose for which it was well suited by its good drainage and general salubrity. It still contains barracks which could accommodate 500 men, but is now only a sanitarium for convalescent European troops. Four hundred yards to the east of the cantonment, which is about half a mile square, is the old fort of Poonamallee, now occupied principally by warehouses, storerooms, and the hospital. It is a Muhammadan work, 175 yards long and 142 broad, surrounded by a rampart 18 feet high. It was of considerable service in holding the country, towards both Madras and Conjeeveram, during the Wars of the Carnatic.

Pooree.—District, subdivision, and town in Bengal. *See* PURĪ.

Popa.—An extinct volcano, situated in 20° 56′ N. and 95° 16′ E., towards the south of Myingyan District, Upper Burma, 4,961 feet above the sea. It is an isolated hill mass rising up from undulating sandy country, and has acquired a more than local notoriety as the reputed abode of certain powerful *nats* or spirits. Popa is more or less conical in shape; its summit is bare, but its lower slopes are covered partly with thick jungle and partly with garden land, which receives a liberal rainfall and bears excellent crops. The crater at its summit is about a mile across, and forms a punch-bowl 2,000 feet in depth. A Government bungalow has been built near the summit, but no regular use has as yet been made of the hill as a sanitarium.

Porāhāt.—Estate in the north-west of Singhbhūm District, Bengal, lying between 22° 15′ and 22° 54′ N. and 85′ 5′ and 85° 46′ E., with a total area of 813 square miles, or 514 square miles if its dependencies be excluded. It is for the most part hilly and is largely covered with forest. A fairly open belt of country runs from the north-east to the south-west; this has been opened up by the Bengal-Nāgpur Railway, and is healthier and more extensively cultivated than the remainder of the estate.

In former times the whole of Singhbhūm proper was ruled by a family of Rāthor Rājputs, claiming descent from an officer of Rājā Mān Singh's army which was sent to Bengal at the time of Daud

Khān's rebellion. The States of Saraikelā and Kharsāwān were carved out of the original State for junior members of the Rājā's family; and the chief of Saraikelā gradually extended his power and dominions until he became a serious rival to the head of the family, who was now known as the Rājā of Porāhāt. The country was saved by its rocky boundaries and sterile soil from conquest by the Marāthās, and was still independent when, in 1818, Rājā Ghanasyām Singh Deo tendered his allegiance to the British Government. His chief objects were to secure a recognition of his supremacy over the Rājās of Saraikelā and Kharsāwān, and to obtain aid in reducing the refractory tribe of Larkā Kols or Hos. The British Government disallowed his claim to supremacy over his kinsmen of Saraikelā and Kharsāwān, but accepted merely a nominal tribute of Rs. 101, and refrained from interfering in any way with the internal administration of the State. An engagement embodying these conditions was taken from him in 1820. It was intended that similar agreements should be entered into by the chiefs of Saraikelā and Kharsāwān; but the matter appears to have been overlooked, and those chiefs have never paid tribute, though they have frequently been called upon to furnish contingents of armed men to aid in suppressing disturbances. The Porāhāt family gradually sank into poverty; and in 1837 the Rājā received a pension of Rs. 500 as a compassionate allowance, in compensation for any losses he might have sustained in consequence of our assumption of the direct management of the Kolhān. In 1857 Arjun Singh, who was then Rājā, after delivering up to Government the Chaibāsa mutineers, rebelled himself. He was captured and deported to Benares, and his State was confiscated. Some portions of it were given to the chiefs of Saraikelā and Kharsāwān, and one or two other persons who had helped the Government during the Mutiny; and the rest, on Arjun Singh's death, was regranted in 1895 to his son Natpat Singh 'to be held by him and his lineal male heirs according to the custom of lineal primogeniture (the eldest male of the eldest branch being preferred) as an inalienable and impartible revenue-free *zamīndāri*.' Anandpur and Kerā were formerly *khorposhs* or maintenance grants made by the Rājā of Porāhāt to junior members of the family, and their holders paid quit-rents to him; these were remitted by Government after the Mutiny, and Narpat Singh has now no right to receive rents from or to interfere with them, but he has a reversionary right of succession in the event of extinction of male heirs. Bāndgaon and Chainpur are under-tenures, the rent of which has been fixed in perpetuity. The forests of the Porāhāt estate are managed for the Rājā's benefit by the Forest department.

The estate (excluding the dependencies) is divided into ten groups of villages or *pīrs*. Two of these, which lie in the more open part

of the country, are known as the Sadant *pīrs*, and the remainder as the Kolhān *pīrs*. The estate has recently been resettled for fifteen years from 1903. In Porāhāt proper 159 square miles are cultivated, and 73 square miles are cultivable waste, 38 square miles are uncultivable, and 244 square miles are under forest. The chief crop is rice, but some millets and pulses are also grown, especially in the more hilly Kolhān *pīrs*. The rates for the best rice land vary from R. 0-12-7 per acre in the Kolhān to Rs. 1-9-2 in the Sadant *pīrs*; and the total rental fixed at the settlement was Rs. 38,000, rising to Rs. 42,000 after five years.

Porakād (*Porca*).—Town in the Ambalapulai *tāluk* of Travancore State, Madras, situated in 9° 22′ N. and 76° 22′ E. Population (1901), 2,264. Formerly the head-quarters of the Chempakasseri Rājās, it passed to Travancore in 1748. It was once a notable port, but declined with the rise of Alleppey. The Portuguese, and after them the Dutch, had settlements here.

Porāli.—River in Baluchistān, draining the south of the Jhalawān country and the Las Bela State. It rises near Wad in 20° 33′ N. and 66° 23′ E., and enters the Pab range by a tortuous but picturesque channel. A course of 175 miles carries it to the sea at Miāni Hor. The principal affluents are the Kud, which drains the valley of Ornāch, the Tibbi, and the Lohendav. About five miles north of Sheh in Las Bela the Porāli bifurcates, and most of its flood-water is carried off by the Titiān, which enters the Siranda lake. Within the hills many flats are irrigated from this river, and the *niābat* of Welpat in Las Bela is also dependent on it. Temporary dams have been erected near Sheh and on the Titiān for purposes of cultivation. The Porāli has been identified with the ancient Arabis or Arabius.

Porbandar State.—Native State in the Kāthiāwār Political Agency, Bombay, lying between 21° 14′ and 21° 56′ N. and 69° 28′ and 70° E., with an area of 636 square miles. It is situated in the west of the peninsula of Kāthiāwār, and consists of a strip along the shore of the Arabian Sea, nowhere more than 24 miles broad.

The Porbandar State may be described roughly as a plain sloping from the Bardā hills to the sea, drained by many rivers, the largest of which, the Bhādar, Sorti, Vartu, Minsār, and Ojat, contain water throughout the year. Towards the coast lie tracts of marsh land called *gher*, formed by the rainfall. On some of these, which are penetrated by salt water, only grass and reeds can flourish; but on the rest rice, gram, *udid*, *mūg*, and other crops are grown. The largest *gher* is the Modhwāra, about 6 miles long by 4 miles broad, connected with the sea by the Kindari creek. This marsh, though fed by no large stream, receives all the drainage of the Bardā hills. When it fills during the rainy season, the villagers dig away the sand with

which the sea annually closes the mouth of the creek, the water flows into the sea, while the sea-water enters the marsh during very high tides. The Gangājal is a large fresh-water marsh situated not far from the Kindari creek, about 2 miles in circumference, but unless the rains are heavy does not hold water for more than eight months in the year. The climate is healthy; the annual rainfall averages 25 to 30 inches.

The chief is a Hindu of the Jethwa clan of Rājputs and belongs to one of the oldest races in Western India, whose advent is approximately set down at from A.D. 900 to 1000. They held Bardā and occupied much of the adjacent coast region of Hālār. After the capture and sack of Ghumli, the Jethwas retired to Rānpur, where they remained for many years, but were finally driven to Chhāya. While there they acquired Porbandar and Navi from the Mughal government, and reconquered much of their adjacent possessions from the Jādejas. In 1785 Sultānjī transferred his seat of rule to Porbandar, which has ever since been the Jethwa capital and given a name to the chiefship. The ruler executed the usual engagements in 1807. He is entitled to a salute of 11 guns. The family follow the rule of primogeniture in point of succession, and hold a *sanad* authorizing adoption. The chief's title is Rānā of Porbandar.

The population at the last four enumerations was: (1872) 72,077, (1881) 71,072, (1891) 85,785, and (1901) 82,640, showing a decrease of 4 per cent. during the last decade, owing to the famine of 1899–1900. In 1901 Hindus numbered 71,642, Musalmāns 9,741, and Jains 1,158. The capital is PORBANDAR TOWN, and there are 96 villages. The style of house-building is peculiar. No mortar is used, but the limestone, of which better-class houses are built, is accurately squared and fitted; and it is asserted that the quality of the limestone is such that when once the rain has fallen on a wall thus built, the joints coalesce and the wall becomes one solid block.

The soil is as a rule an excellent black soil, though a less fertile red soil occurs in places. The area cultivated in 1903–4 was 295 square miles, of which 59 were irrigated. The principal crops are *jowār*, *bājra*, wheat, cotton, &c.; and the principal products of the sea are fish of different kinds. Turtles of large size abound along the coast, but are not captured. Oysters are found, but do not produce pearls like those of the Gulf of Cutch. The limestone, known as Porbandar stone, found over almost the whole of the State, is chiefly quarried in the Bardā hills, notably at the Adatiana quarry, and is largely exported to Bombay. Iron is also found, but is not smelted. Silk of good quality and cotton cloth are manufactured. In 1903–4 concessions were granted for the erection of a cotton-press. The Malik hill is the only portion of the elevated country that is fairly wooded. The

forest revenue, derived chiefly from the sale of grass and wood, was Rs. 33,000 in 1903–4.

Much of the trade of the State has been absorbed by Bombay, but large quantities of timber are still imported from the Malabar ports. Cotton seed and tobacco are imported from Broach, embroideries from Surat, and raw sugar from Gandevi and Navsāri. Grain is imported from Karāchi. All the exports go to Bombay. Heavy port dues, the competition of Verāval and Bhaunagar, and insufficient communications account for the decline of the State as a trading centre. In 1881 a British Superintendent of customs was appointed under the local administration, but has now yielded place to a State official. The total value of the sea-borne trade in 1903–4 was 44 lakhs. The chief harbours are Porbandar, Mādhavpur, Miani, and Navibandar. The Bhavnagar-Gondal-Junāgarh-Porbandar Railway passes through the State; and the net income of the State from the line in 1903–4 was Rs. 79,570.

Porbandar ranked as a State of the first class in Kāthiāwār until 1869, and was restored to this rank again in 1886, during the period of Government administration. First-class powers were given to the present ruler in 1900, with certain restrictions, which have recently been removed. The chief has power to try persons for capital offences, the trial of British subjects for such offences, however, requiring the previous permission of the Agent to the Governor. He enjoys a gross revenue of about 9¾ lakhs (1903–4), chiefly derived from land (3 lakhs). The State pays a tribute of Rs. 48,504 jointly to the British Government, the Gaikwār of Baroda, and the Nawāb of Junāgarh. The police force numbered 299 men in 1905. There are one jail and four lock-ups, with a daily average (1903–4) of 29 prisoners. The number of schools is 38, with a total (1903–4) of pupils. The municipality at Porbandar had an income of Rs. 26,000 in 1903–4. The State has one hospital and three dispensaries, affording relief to about 123,000 patients in 1903–4. In the same year about 1,700 persons were vaccinated. A horse-breeding farm is maintained by the State.

Porbandar Town.—Chief town and port of the State of the same name in Kāthiāwār, Bombay, situated in 21° 37′ N. and 69° 48′ E., on the shore of the Arabian Sea, and the terminus of the railway from Rājkot. Population (1901), 24,620, including Hindus, 17,862; Musalmāns, 5,566; and Jains, 1,113. Though a bar prevents the entrance of ships of any great size into the port, it is much frequented by craft of from 12 to 80 tons burden. In spite of the levy of heavy customs dues, and the competition of other ports, commerce is considerable, including, besides a local traffic with the Konkan and Malabar coast, a brisk trade with the ports of Sind, Baluchistān, the Persian Gulf,

Arabia, and the east coast of Africa. In 1903-4 the imports were valued at $17\frac{1}{2}$ lakhs and the exports at 25 lakhs. At a little cost the port might be made one of the most secure on the Kāthiāwār seaboard. The town is entirely built of stone, and was surrounded by a fort which was demolished during British administration. It is said to have been called in ancient times Sudāmāpuri, and it has been Jethwa capital since about 1785. Telephonic connexions are laid throughout the town, which contains nine public gardens, the chief of which is the Rājwādi with an income of Rs. 3,000. The sea-face is provided with a lighthouse 90 feet high, showing a dioptric light of the fourth class, visible for 15 miles at sea. The town possesses several fine public buildings.

Port Blair.—A Penal Settlement in the Andaman Islands, Bay of Bengal, which consists of the South Andaman and the islets attached thereto, covering an area of 473 square miles. Of this total, 327 square miles are in actual occupation. The unoccupied area consists of the densest jungle. The occupied area is partly cleared for cultivation, grazing, and habitation, and partly afforested. A great part of the unoccupied area is in the hands of the hostile Jarawas; but they are gradually retreating northwards under pressure of the forest operations, which are extending over the whole area of the Penal Settlement.

Physical aspects.

The South Andaman Island has a very deeply indented coast-line, comprising the following harbours: on the east coast, Port Meadows and Port Blair; on the south coast, Macpherson's Strait; on the west coast, Port Mouat, Port Campbell, and Port Anson. Vessels of large draught can anchor and trade with safety in these in any weather and at all seasons. If Baratang be reckoned with the South Andaman as a natural apanage, Elphinstone Harbour must be added to the list. Smaller vessels also find the following places safe for shelter and most convenient for work: on the east coast, Colebrooke Passage, Kotara Anchorage, and Shoal Bay; on the west coast, Elphinstone Passage in the Labyrinth Islands, and in some seasons Constance Bay; in Ritchie's Archipelago, Kwangtung Strait and Tadma Juru, and in some seasons Outram Harbour.

For forest trade, the staple commerce of the islands, a more convenient natural arrangement is hardly imaginable. Port Mouat is only 2 miles distant from Port Blair, over an easy rise; Shoal Bay is 7 miles, with an easy gradient from Port Blair, and runs into Kotara Anchorage; and Port Meadows is but a mile from Kotara Anchorage. Creeks navigable by large steam-launches run into Port Blair from some distance inland. Five straits surround the island: two, Macpherson's Strait and Elphinstone Passage, navigable by ships; and the rest, Middle Strait, Colebrooke Passage, and Homfray's Strait, navigable

by large steam-launches. Diligent Strait, practicable for the largest ships, and only 4 miles across at the narrowest point, separates Ritchie's Archipelago from the main islands; and the archipelago is itself intersected everywhere by straits and narrows, which are mostly navigable.

The whole of the Settlement area consists of hills separated by narrow valleys, rendering road-making and rapid land communication difficult. The main ranges are the Mount Harriett Range, up to 1,500 feet; the Cholunga Range, up to 1,000 feet; and the West Coast Range, up to 700 feet. These run almost parallel, north and south, down the centre of the island. To the north, the Cholunga Range breaks up into a number of more or less parallel ridges. To the south, below Port Blair Harbour, the country is a maze of hills rising to 850 feet, and tending to form ridges running north and south.

No stream in the island could be called a river, and on the east coast perennial streams are not common. On the west and north, however, more surface water is found, and perennial streams running chiefly from south to north are fairly numerous. Fresh water is, however, everywhere obtained without much difficulty from wells, and rain-water reservoirs (tanks) could be formed in all parts. Navigable salt-water creeks are numerous, and are of much assistance in water-carriage.

History.

The old settlement at the Andamans, established by the well-known Marine Surveyor Archibald Blair in 1789, was not a penal settlement at all. It was formed on the lines of several then in existence, e.g. at Penang and Bencoolen, to put down piracy and the murder of shipwrecked crews. Convicts from India were sent incidentally to help in its development, precisely as they were sent to Bencoolen, and afterwards to Penang, Malacca, Singapore, Moulmein, and the Tenasserim province. Everything that Blair did was performed with ability; and his arrangements for establishing the settlement in what he named Port Cornwallis (now Port Blair) were excellent, as were his selection of the site and his surveys of parts of the coast, several of which are still in use. The settlement flourished under Blair; but unfortunately, on the advice of Commodore Cornwallis, brother of the Governor-General, the site was changed for strategical reasons to North-East Harbour, now Port Cornwallis, where it flourished at first, but subsequently suffered much from sickness. Here it was under Colonel Alexander Kyd, an engineer officer, and a man of considerable powers and resource. On the abandonment of the settlement in 1796, on account of sickness, it contained 270 convicts and 550 free Bengali settlers. The convicts were transferred to Penang and the settlers taken to Bengal. After that the islands

remained unoccupied by the Indian Government till 1856, the present Penal Settlement being formed two years later.

Since its foundation, the history of the Penal Settlement is merely one of continuous official development from March, 1858 (when Dr. P. J. Walker, an experienced Indian Jail Superintendent, arrived with 4 European officials and 773 convicts, and commenced clearings in Port Blair Harbour), to the present day.

The penal system in force at the Andamans is *sui generis*, has grown up on its own lines, and has been gradually adapted to the requirements of the present complex conditions. The system has always been independent of, and was never at any time based on, the Indian prison system, and has been continuously under development from its inception by Sir Stamford Raffles for about a hundred years. The fundamental principles on which it is founded are still substantially what they were originally, and have stood the criticism, the repeated examination, and the modifications in detail of a century without material alteration. The classification of the convicts, the titles of those who are selected to assist in controlling the general body, the distinguishing marks on their costume, the modes of employing them, and their local privileges are virtually now as they were at the beginning.

The first temporary Superintendent of the Andamans was Captain (afterwards General) Henry Man, who had long been Superintendent of the Penal Settlements in the Straits. In January, 1858, he was authorized by the Government of India to follow generally the system in force in the Straits Settlements, and received powers under the Mutineers Acts, XIV and XVII of 1857 (since repealed). Captain Man was succeeded in March, 1858, by Dr. P. J. Walker, who drew up rules, sanctioned by the Government of India, which were based on instructions identical with those given to Captain Man. These were followed by the Port Blair and Andamans Act, XXVII of 1861 (since repealed), and by modifications in the rules made by successive Superintendents and by Lord Napier of Magdāla, as the result of an official inspection of the Settlement in 1863. In 1868, when General Man became permanent Superintendent, he embodied in the Andaman system the Straits Settlements Penal Regulations, and thus brought the system still more closely into line with that of the Straits Settlements. These modifications still affect almost every part of it. A formal Regulation was drafted in 1871, and after discussion by Sir Donald Stewart, Chief Commissioner and Superintendent, Mr. (Justice) Scarlett Campbell, and Sir Henry Norman, became the Andaman and Nicobar Regulation, 1874, supplemented by rules passed by the Governor-General-in-Council and the Chief Commissioner. In 1876 a new Andaman and Nicobar Regulation was drawn up, but the rules under

the Regulation of 1874 were continued. These rules, together with the Superintendent's by-laws (Settlement Standing Orders) passed under them, and modified from time to time by the Government of India and by the Commission of Sir C. J. Lyall and Sir A. Lethbridge in 1890, form the still-growing penal system of the present day.

The methods employed were originally a new departure in the treatment of prisoners, the salient features being the employment of convicts on every kind of labour necessary to a self-supporting community, and their control by convicts selected from among them. Permission to marry and settle down is given after a certain period, when the convict is called a 'self-supporter.' Indian convicts were first transported in 1787 to Bencoolen in Sumatra to develop that place, then under the Indian Government. The Lieutenant-Governor, Sir Stamford Raffles, drew up a dispatch in 1818, explaining the principles he had already successfully adopted for their management; and in 1823 he sent the Government a copy of his Regulations. In 1825 Bencoolen was ceded to the Dutch, and the convicts were transferred to Penang and Singapore. Penang had been occupied in 1785, and convicts were sent there in 1796. When the Bencoolen convicts arrived, they remained under the Regulations of Sir Stamford Raffles, and in 1827 the Penang Rules were adapted from these. When Malacca was occupied in 1824, convicts were sent there from Penang, and shortly afterwards they too were placed under the Penang Rules. Singapore had been founded by Sir Stamford Raffles in 1819; and in 1825 convicts arrived there from Bencoolen and India, and in 1826 from Penang. The Bencoolen Rules, and later the Penang Rules, were in force at Singapore, with modifications, for many years, until Regulations for the management of Indian convicts were drawn up in 1845 by Colonel Butterworth, the Governor of Singapore, known as the Butterworth Rules. They were modified by Major McNair, Superintendent of the convicts, in 1858. The Butterworth Rules were founded on the principles laid down by Sir Stamford Raffles in 1818 and on his Bencoolen Rules. A leading part in the drafting and working of these was taken by General Man, to whom it fell to start the Andaman Penal Settlement in 1858. He carried them with him to Moulmein and the Tenasserim province, to which places Indian convicts were also transported; and when he was appointed permanent Superintendent of the Andaman Penal Settlement in 1868 he embodied the Regulations for Tenasserim in the rules and orders he found already existing. The intimate connexion of the Andamans with the original penal system from the beginning is further illustrated by the fact that, when the old settlement at Port Cornwallis was broken up in 1796, the convicts were transferred to Penang.

The Penal Settlement is administered by the Chief Commissioner, Andamans and Nicobars, as Superintendent, with a Deputy and a staff of Assistant Superintendents and overseers, who are almost all Europeans, and sub-overseers, who are natives of India. The petty supervising establishments are staffed by convicts. There are, besides, special departments—Police, Medical, Commissariat, Forests, Tea, Marine, &c., of the usual type in India, except that all civil officers are invested with special powers over convicts. Civil and criminal justice is administered by a series of courts under the Chief Commissioner and the Deputy-Superintendent, as the principal courts of original and appellate jurisdiction. The Chief Commissioner is also the chief revenue and financial authority.

Administration.

The Penal Settlement centres round the harbour of Port Blair, the administrative head-quarters being on Ross Island, an islet of less than a quarter of a square mile, across the entrance of the harbour. For administrative purposes it is divided into two Districts and four subdivisions. The subdivisions remain constant, but their distribution between the Districts has varied from time to time. At present they are as follows: Eastern District (head-quarters, Aberdeen) — Ross, Haddo; Western District (head-quarters, Viper Island)—Viper, Wimberley Ganj.

Within the subdivisions are stations, places where labouring convicts are kept, and villages, where either 'free' settlers or 'self-supporters' dwell. As these stations and villages enter largely into the life and description of the place, a list is given here.

EASTERN DISTRICT

Ross Subdivision

Stations

Ross.	North Corbyn's Cove.	Middle Point.
North Bay.	Mādhoban.	Rutland Island.
Mount Harriett.		

Villages

South Point.	Aberdeen.

Haddo Subdivision

Stations

Phoenix Bay.	Rangachāng.	Minnie Bay.
Haddo.	Garachērama.	Pahārgaon.
Tea Garden, Navy Bay.		

Villages

Chatham.	Bumlitān.	Austinābād.
Phoenix Bay.	Taylerābād.	Pahārgaon.
Janglighāt.	School Line.	Lamba Line.
Niāgaon.	Garachērama.	Dūdh Line.
Birch Ganj.	Protheroepore.	

WESTERN DISTRICT

Viper Subdivision

Stations

Viper Island.	Port Mouat.	Namūnaghar.
Dundas Point.	Elephant Point.	

Villages

Mitha Khāri.	Port Mouat.	Manglutān.
Namūnaghar.	Dhani Khāri.	Baghēlsinghpura.
Ograbaraij.	Homfray Ganj.	Nawashahr.
Chauldāri.		

Wimberley Ganj Subdivision

Stations

Shore Point.	Kālatāng.	Bājajāgda.
Goplākabang (including Middle Straits).	Jātāng.	Bindrāban.

Villages

Bamboo Flat.	Bindrāban.	Tusonābād.
Stewart Ganj.	Anikhet.	Manpur.
Wimberley Ganj.	Cadell Ganj.	Temple Ganj.
Kādakachāng.	Hobdaypur.	Alīpur.
Mathura.		

Persons transported to Port Blair by the Government of India are either murderers who for some reason have escaped the death penalty, or perpetrators of the more heinous offences against the person and property. Their sentences are chiefly for life; but some, varying from very few to a considerable number, with long-term sentences, are also sent from time to time. Except under special circumstances, convicts are not received under eighteen years of age, nor over forty, and they must be certified as medically fit for hard labour before transportation. Youths between eighteen and twenty are kept in the boys' gang under special conditions. Girls of about sixteen are occasionally

received; but as all women locally unmarried are kept in the female jail, a large enclosure consisting of separate sleeping wards and work-sheds, there are no special rules for them.

The following table shows that murder and heinous offences against the person, dacoity (gang robbery with murder or preparation for murder), and other heinous offences against property, make up nearly the whole total:—

Year.	Murder.	Against the person.	Dacoity.	Against property.	Others.	Total.
1874 .	5,575	107	1,262	325	300	7,569
1881 .	7,445	158	2,444	1,012	393	11,452
1891 .	7,946	308	1,711	1,337	436	11,738
1901 .	7,795	817	2,262	904	169	11,947
1905-6 .	8,559	812	3,050	2,038	237	14,696

These figures illustrate clearly the violent character of the convicts, and it is of value to examine their behaviour under continuous restraint. Between 1890 and 1900, the average proportion of convicts who committed or attempted murder was 0·12 per cent., the figures rising to 0·154 in 1894. Neither the nature of the labour nor the discipline enforced appears to have any effect on the tendency to murder, and the motives traced are similar to those disclosed among an ordinary population, while murderous assaults are usually committed quite suddenly on opportunity and cause arising.

The full penal system, as at present worked, is as follows. Life-convicts are confined in the cellular jail for six months, where the discipline is severe but the work is not hard. They are then put to hard gang labour in outdoor work for 4½ years, and are locked up at night in barracks. For his labour during this period the convict receives no reward, but his capabilities are studied. During the next five years he remains a labouring convict, but is eligible for the petty posts of supervision and the easier forms of labour; he also gets a very small allowance for little luxuries, or to deposit in the special savings bank. He has now completed ten years in transportation, and can receive a ticket-of-leave, being termed a 'self-supporter.' In this condition he earns his own living in a village; he can farm, keep cattle, and marry or send for his family. But he is not free, has no civil rights, and cannot leave the Settlement or be idle. After twenty to twenty-five years spent in the Settlement with approved conduct, he may be released either absolutely or, in certain cases, under conditions as to place of residence and police surveillance. While a 'self-supporter,' he is at first assisted with house, food, and tools, and pays no taxes or cesses; but after three to four years, according to certain

conditions, he receives no assistance, and is charged with every public payment which would be demanded of him were he a free man.

The women life-convicts are similarly dealt with, but less rigorously. The general principle is to divide them into two main classes: those in, and those out of, the female jail. Every woman must remain in the female jail unless in domestic employ by permission, or married and living with her husband. Women are eligible for marriage or domestic employ after five years in the Settlement, and if married they may leave the Settlement after fifteen years with their husbands; but all married couples have to wait till the expiry of both their sentences, and they must leave together. If unmarried, women remain twenty years in the jail. They rise from class to class, and can become petty officers on terms similar to those for the men.

Term-convicts are treated on the same general lines, except that they cannot become 'self-supporters,' and are released at once on the expiry of their sentences.

Convict marriages, which are described below under Caste, are carefully controlled to prevent degeneration into concubinage or irregular alliances; and the special local savings bank has proved of great value in inducing a faith on the part of the convicts in the honesty of the Government, besides its value in causing habits of thrift and diminishing the temptation to violence for the sake of money hoarded privately.

The whole aim of the treatment is to educate for useful citizenship, by the insistence on continuous practice in self-help and self-restraint, leading to profit. Efforts to behave well and submission to control alone guide the convict's upward promotion; every lapse retards it. And when he becomes a 'self-supporter,' the convict can provide money out of his own earnings as a steady member of society, to afford a sufficient competence on release. The incorrigible are kept till death, the slow till they mend their ways, and only those who are proved to have good in them return to their homes. The argument on which the system is based is that the acts of the convict spring from a constitutional want of self-control.

All civil officers in the Settlement are Magistrates and Civil Judges, with the ordinary powers exercised in India; and if a term-convict misbehaves seriously, his case can be tried magisterially and an additional punishment inflicted. In the case of a life-convict, any sentence of 'chain gang' that may be imposed is added to the twenty (or twenty-five) years that he must, in any case, remain. Any offence under the Indian Penal Code or other law is punishable executively as a 'convict offence,' except an offence involving a capital sentence, which is tried at Sessions in the ordinary manner. 'Convict offences,' though punishable executively, are all tried, however trivial, by a fixed

quasi-judicial procedure, including record and appeal, so that the convict is made to feel that justice is as secure to him as to the free.

The convicts, while in the Settlement, are divided in several ways. The great economic division for both sexes is into labouring convicts and 'self-supporters'; the former perform all the labour of the place, skilled and unskilled, and the latter are chiefly engaged in agriculture and food supplies. The commissariat division is into 'rationed' and 'not rationed'; in the former class are nearly all the labouring convicts, and in the latter all the 'self-supporters' and some of the labouring convicts. The financial division is into classes indicating those with and those without allowances, with numerous subdivisions according to the scale of allowances.

There are also disciplinary gangs, involving degradation either on account of bad character on arrival, or while in the Settlement. These are known as Cellular Jail Prisoner, Chain Gang, Viper Jail Prisoner, Habitual Criminal Gang, Viper Island Disciplinary, Unnatural Crime Gang, Chatham Island Disciplinary, 'D' (for 'doubtful') ticket men. The 'D' ticket may be explained as follows. Prisoners in the third class are obliged to wear wooden neck tickets, bearing full particulars of their position. On the ticket is the convict's number, the section of the Indian Penal Code under which he was convicted, the date of his sentence, and the date his release is due. For a convict of 'doubtful' character the ticket has a D; for one of a gang of criminals convicted together it has a star, and the presence or absence of A shows the class of ration; for a life-prisoner it has L.

There is a class of 'connected' convicts. Prisoners convicted in the same case, marked by a star on the neck ticket, are all specially noted and never kept in the same station or working gang. These special arrangements sometimes involve considerable care and organization, as a gang of dangerous dacoits may arrive in Port Blair forty strong.

The Settlement is divided into what are known as the 'free' and 'convict' portions, by which the free settlers living in villages are separated from the 'self-supporters' who also live in villages. Every effort is made to prevent unauthorized communication between these two divisions. No adult person can enter the Settlement without permission, or reside there without an annual licence; and certain other necessary restrictions are imposed on him as to his movements among and his dealings with the convicts, on pain of being expelled or punished. The 'free' subdivisions are Ross, Aberdeen, Haddo, and Garachērama. The 'convict' subdivisions are Viper and Wimberley Ganj.

A large proportion of the free settlers are descendants of convicts (known in Port Blair as the 'local-born') and permanent residents. Like every other population the 'local-born' comprise every kind of

personal character. Taken as a class they may, however, be described thus. As children they are bright, intelligent, and unusually healthy. It is the rule, not the exception, for the whole of a 'local-born' family to be reared. On the score of intelligence they do not fail throughout life. As young people they do not exhibit any unusual degree of violence or inclination to theft, but their general morality is distinctly low. Among the girls, even when quite young, there is a painful amount of prostitution, open and veiled: the result partly of temptation in a population in which the males very greatly preponderate, but chiefly due to bad early associations, convict mothers not being a class likely to bring up their girls to a high morality. The boys, and sometimes the girls, exhibit much defiant pride of position, in being free as opposed to the convict, combined with a certain mental smartness, idleness, dislike of manual labour, and disrespect for age and authority that stand much in their way in life. Their defiant attitude is probably due to the indeterminate nature of their social status, as has been observed of classes unhappily situated socially elsewhere. Heredity seems to show itself in both sexes rather in a tendency towards the meaner qualities than towards violence of temperament. The adult villagers are quarrelsome and as litigious as the courts will permit them to be. They borrow all the money they can, do not get as much out of the land as they might, and spend too much time in attempting to get the better of neighbours. At the same time, it would be an entire error to suppose that the better elements in human nature are not exhibited, and many convicts' descendants have shown themselves upright, capable, hardworking, honest, and self-respecting. On the whole, considering their parentage, the 'local-born' population is of a much higher type than might be expected, though there is too great a tendency on the part of the whole population to lean on the Government, the result probably of the minute supervision necessary in the conditions of the Settlement.

Population.

The population of the Penal Settlement consists of convicts, their guards, the supervising, clerical, and departmental staff, with the families of the latter, and a limited number of ex-convict and trading settlers and their families. Detailed statistics have been maintained since 1874, and are shown in the tables on the next page; but it must be remembered that in intervening years the numbers of the convicts may vary considerably.

The mother tongues of the population are as numerous as in the parts of India and Burma from which it is derived; but the *lingua franca* of the Settlement is Urdū (Hindustāni), spoken in every possible variety of corruption, and with every variety of accent. All convicts learn it to an extent sufficient for their daily wants,

and the understanding of orders and directions. It is also the vernacular of the 'local-born,' whatever their descent. The small extent to which many absolute strangers, such as the Burmans, the inhabitants of Madras, and others, master it, is one of the safeguards of the Settlement, as it makes it impossible for any general plot to be hatched. In barracks, in boats, and on works where men have to be congregated, every care is taken to split up nationalities, with the result that, except on matters of daily common concern, the convicts are unable to converse confidentially together. The Urdū of Port Blair is thus not only exceedingly corrupt from natural causes, but it is filled with technicalities arising out of local conditions and the special requirements of convict life. Even the vernacular of the 'local-born' is loaded with them. These technicalities are partly derived from English, and are partly specialized applications to new uses of pure or corrupted Urdū words. As opportunity has arisen, some of these have been collected and printed from time to time in the *Indian Antiquary*. The most prominent grammatical characteristic of this dialect appears in the numerals, which are everywhere Urdū, but are not spoken correctly.

Year.	Administrative establishment.					Free resident population, including children and conditionally released.		
	Civil.	Military.	Marine.	Police.	Total.	Male.	Female.	Total.
1874 .	50	426	19	330	825	466	372	838
1881 .	45	336	19	736	1,136	941	669	1,610
1891 .	85	460	39	541	1,125	1,357	1,340	2,697
1901 .	100	466	70	532	1,168	1,623	1,368	2,991
1905-6 .	107	517	14	595	1,233	1,594	1,382	2,976

Year.	Convict population.			Total population.				
				Adults.		Children.		Grand total.
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	
1874 .	6,733	836	7,569	7,654	907	370	301	9,232
1881 .	10,325	1,127	11,452	11,766	1,329	636	467	14,198
1891 .	10,874	864	11,738	12,532	1,439	824	765	15,560
1901 .	11,217	730	11,947	13,235	1,477	773	621	16,106
1905-6 .	13,981	715	14,696	16,070	1,494	738	603	18,905

The conditions under which the people live are so artificial and so unlike those of an ordinary community that it is impossible to describe them on the usual lines. There are hardly any natural movements to observe and report. The following remarks aim at a description of the social state of the convicts and of the unofficial population in the regulated conditions of life imposed on them.

The restrictions under which the free residents live have a distinct effect on the characters of those subjected to them from childhood to death, an effect which will become more and more apparent as generation after generation of convicts' descendants come under their pressure. They include Government establishments introduced from India, traders from India and Burma, domestic servants who have accompanied their masters, very few settlers from outside, and the descendants of convicts who have settled in the Penal Settlement after their release.

General convict statistics for a series of years are given below:—

Particulars.		1874.	1881.	1891.	1901.	1905-6.
Number of convicts received	Male	603	1,102	869	1,232	1,507
	Female	97	100	52	80	54
Number of life-convicts	Male	6,727	7,668	8,033	9,204	9,642
	Female	836	1,122	861	714	673
Number of term-convicts	Male	6	2,657	2,840	2,037	4,339
	Female	...	5	4	19	42
Number of convicts released	Male	355	64	685	215	300
	Female	4	3	73	32	31
Admissions into hospital	Male	11,192	25,531	22,328	22,319*	25,991
	Female	842	827	1,094	1,290	1,246
Number died	Male	107	534	435	433	529
	Female	9	18	17	17	30
Number escaped and not recaptured	Male	24	15	14	5	13
	Female	...	...	...	...	...
Number executed	Male	6	13	12	6	5
	Female	...	...	...	...	...

* Medical statistics are for 1900.

In this table the 'escaped' are those who have not been heard of again. As a matter of fact, such unfortunates, as a rule, die in the jungles or are drowned at sea. Very rarely does a convict escape to the mainland.

At the Census of 1901 the population of Port Blair was distributed over an occupied area of 327 square miles in 29 'stations,' or places where labouring convicts are kept, and 34 'villages,' or places where free residents or ticket-of-leave convicts ('self-supporters') reside. The population then numbered 16,256, including 150 persons—114 males and 36 females—on the mail steamer. Details of the population on March 31, 1906, are shown in the table on the next page.

Every religion in India is represented among the convicts, but it was impossible to classify Hindus by sect. The Sikhs are represented chiefly in the military police battalion, the Buddhists by the Burman convicts, and the Christians by the British infantry garrison and the officials. It may be noticed that not one person was returned as a Jew among all the convicts.

The necessary work of the Settlement is all performed by convicts.

Omitting those employed as public servants, the ex-convict and free unofficial population is chiefly supported by agriculture, which was recorded as the means of subsistence of 57 per cent.

	Christians.		Hindus.		Muhammadans.		Buddhists.		Others.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Civil . .	58	..	38	..	10	..	1	..	..	..	107	..
Military . .	155	..	202	..	157	..	..	..	3	..	517	..
Marine . .	12	..	..	..	2	..	..	..	..	..	14	..
Police . .	2	..	382	..	211	..	..	..	..	..	595	..
Free residents	22	58	636	552	180	161	3	2	4	4	845	777
Convicts. .	37	..	7,657	440	3,676	251	2,460	8	151	16	13,981	715
Conditionally released convicts . .	..	..	8	2	3	..	..	..	..	..	11	2
Children of all ranks . .	37	34	498	408	194	157	4	1	5	3	738	603
Total	323	92	9,421	1,402	4,433	569	2,468	11	163	23	16,808	2,097

As the maintenance of caste among natives of India involves the maintenance of respectability, and as the aim of the penal system is the resuscitation of respectability among the convicts, nothing is permitted that would tend to destroy the caste feeling among them. The tendency as usual is to raise their caste wherever that is possible, and occasionally some crafty scoundrel is convicted of illegitimate association with fellow Hindus. Two Mehtars (sweepers) were some time ago detected in successfully managing this: one, a 'self-supporter,' masqueraded for years in his village as a Rājput (Rājvansi), and another for years was cook to a respectable Hindu free family on the ground of being a Brāhman. It is also not at all uncommon for low-caste ex-convict settlers to adopt a mode of dress and life which would be quite inadmissible if they were to return to their native villages. In Port Blair, as elsewhere, the great resort of those desiring to raise their social status is the adoption of Islām. On the other hand, instances have occurred in which men who were not so by caste have volunteered to become Mehtars, debasing their social status in order to adopt what they regarded as a less arduous mode of life than cooly labour.

Considerable ethnographic interest attaches to the descendants of convicts, as a marked difference is maintained at present between the free introduced from India and the free with the taint of convict blood. In certain cases the barrier is broken down socially, but entry by marriage into a 'local-born' family is regarded as degrading to an immigrant from India. How long this will last, and in what directions the barrier will be habitually broken through, is worth watching. At present there is much greater sympathy on the part of the immigrants, temporary or permanent, with the actual convicts than with their descendants.

Although the 'self-supporter' is entitled to send for his family from India, he very seldom does so, or it may be that the families are seldom willing to join convicts; and the result is that the 'local-born' are nearly all the descendants of convict marriages. Any 'self-supporter' may marry a convict woman from the female jail, if he has the permission of the Settlement authorities and the marriage is in accordance with the social custom of the contracting parties. In practice, an inquiry ensues on every application, covering the eligibility of the parties to marry under convict rules, the capacity of the man to support a family, and the respective social conditions in India of both parties. A Hindu would not be allowed to marry a Muhammadan woman, while an undivorced Muhammadan woman with a husband living in India would not be allowed to marry at all, and so on. When the preliminaries have been settled, often after prolonged inquiry, permission is registered by the Superintendent, who then calls upon the parties to appear before him and certify, on a given date, that they have been actually married according to their particular rite. The marriage is registered by the Superintendent and becomes legal. Owing to the enormous variety of marriage rites in India, the statement of the parties that the appropriate ceremonies have been performed is accepted. In carrying out this practice there is no difficulty as regards Christians, Muhammadans, and Buddhists, endogamy within their group being easily ensured; but some difficulty has arisen as regards Hindus. Customs among Hindus differ indefinitely, not only in every caste but with every locality; and as the convicts come from various castes and localities, in the strict view of the question hardly any Hindu marriage contracted in Port Blair could be in accordance with custom, which, be it noted, is a different question from legality. In the Settlement, however, the knot has been cut since 1881 by recognizing only the four main divisions (*varna*) of Hindus as separate castes, within which there must be endogamy among the Hindu convicts: namely, Brāhmans, Kshattriyas, Vaisyas, and Sūdras. Before 1881, under pressure of the dominating conditions, the rule was merely Hindu to Hindu, Muhammadan to Muhammadan, Christian to Christian; Buddhists and others hardly came into consideration.

The birth and growth of caste among convicts' descendants is thus a question of the growth and formation of new or special local Hindu castes, which can be studied obscurely in every part of India, and clearly enough in all regions where a Hindu propaganda is being carried among indigenous and animistic populations in the course of the natural spread of civilization along new lines of communication. In Port Blair the caste feeling exists as distinctly, within limits, among the 'local-born' Hindus, as it does elsewhere among the natives of India; and the interest of the question lies in observing how the people have settled the relative social status of the descendants of what, in

India, would be looked on as the offspring of mixed castes; for fond as they are of talking of their caste and claiming it, the 'local-born' have but hazy ideas on the subject as it is understood in the localities from which their parents came. They take into consideration only the caste of the father, as they understand it, that of the mother being ignored. Having introduced this great innovation into custom, they divide themselves into high and low castes; the children of Brāhman, Kshattriya, and Vaisya fathers holding themselves, so far as they can, to be of high caste and apart from the whole of the innumerable castes coming under the head of Sūdra or low caste. Then a 'local-born' man marries, if possible, the daughter of a man of the same caste as his own father. Thus is a full caste system like that of India being developed among the descendants of the convicts.

The present customs connected with marriage among the 'local-born' show clearly that there is as yet no notion of hypergamy, and that under pressure of surrounding conditions caste has to be set aside in marriages, and can only be maintained by ignoring the caste of the mothers. There is, however, a strong desire to marry into the same caste, and wherever practicable this is no doubt done. It is probable that caste maintenance in its strictness will commence in the isogamy which, in India, is so merged in hypergamy that it was left out of consideration in the last *Census Reports*. That in time caste will rule marriages and social relations in the Penal Settlement in all its accustomed force, there appears to be little doubt.

The following table gives statistics of civil conditions in 1901:—

	Total.	Males.	Females.
Unmarried . .	4,387	3,762	625
Married . . .	10,458	9,259	1,199
Widowed . .	1,411	1,101	310
Total	16,256	14,122	2,134

Sickness and mortality are always matters of great consideration among a convict population; but the conditions are also artificial, owing to the conflict between efficiency in discipline and labour, and the maintenance of a low sick-rate and death-rate by regulations and direct measures. The tendency on one side is to err in the direction of penality and economy, and on the other to secure health by leniency and extravagance. Port Blair has had no exceptional experience of this struggle, which is perpetually maintained wherever prisoners are congregated in civilized countries. All convict sickness and mortality tables must be considered with these qualifications. While the annual rainfall does not bear any real relation to either sickness or death-rate, the monthly rainfall has a decided effect on the sick-rate, which rises

regularly every year during the rains (June–September). The following tables compare sickness and mortality in the Settlement for a series of recent years, mostly corresponding with census years:—

Year.	Average daily strength.			Daily average sick.			Deaths in and out of hospital.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1874	6,852	885	7,737	580	25	605	177	17	194
1881	9,966	1,097	11,063	1,205	13	1,218	543	18	561
1891	10,739	837	11,576	664	24	688	461	24	485
1900	10,880	714	11,594	602	27	629	452	16	468
1905	13,634	722	14,356	937	34	971	529	30	559

Ratio per 1,000 of Average Strength

Year.	Of admissions to hospital.			Of daily number of sick.			Of deaths.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1874	2,102·16	1,291·53	2,009·44	84·65	28·25	78·20	25·83	19·21	25·07
1881	2,561·81	753·87	2,382·54	120·91	11·85	110·09	54·49	16·41	50·71
1891	1,607·13	1,342·89	1,588·03	61·83	28·67	59·43	42·93	28·67	41·90
1900	2,051·38	1,806·72	2,036·31	53·35	37·28	54·20	41·54	22·41	40·36
1905	1,906·34	1,725·76	1,897·25	68·72	47·09	67·63	38·80	41·55	38·93

Statistics for isolated years are, however, illusory, as from some causes not yet reported the sickness and mortality appear to rise and fall in successions of years, as shown in the following abstract:—

Cycles of Health

Period.	Death-rate.	Average death-rate per 1,000.
Four years ending 1874 . .	Low	18.46
Seven years ending 1881 . .	High	49·07
Six years ending 1887 . .	Low	22·02
Five years ending 1892 . .	High	41·37
Six years ending 1898 . .	Low	28·39
Two years ending 1900 . .	High	41·25
Five years ending 1905 . .	Low	37·30

The worst year on record was 1878–9, with a death-rate of 67·30. Sickness and death-rates for any given period or year are really due to a combination of causes, which are very difficult to determine, but an elaborate inquiry made in 1902 showed that the highest rates are among the latest arrivals. The inference is that the health statistics for any given period depend largely on the number of new arrivals and convicts of short residence present; and it is possible, for example, that the high rate in 1878–9 was due to the weakness caused by the prevalence of famine in India.

The following figures may be taken as approximately exhibiting the relative importance of prevalent diseases :—

Disease.	Percentage among the sick.
Malarial fever (47 per cent.), and dysentery consequent thereon (7 per cent.)	54
Ulcers and injuries	16
Phthisis	6
All other diseases, including dysentery other than malarial (7 per cent.)	24
Total	100

Ulcers and injuries are classed together, as they are both ordinarily caused by outdoor work, and are largely due to the carelessness of the convicts. The organization of a mosquito brigade and other apparatus for reducing mosquitoes will perhaps largely reduce the importance of malaria. After fever, dysentery (caused by malaria and otherwise) is the chief disease, and is being combated by improved cooking, milk, and diet. Phthisis (with tuberculosis), as an infectious preventible disease likely to spread if unchecked, is being treated in a special hospital, and by other preventive measures.

Agriculture.

Only about 6 per cent. of the labouring convicts are employed as agriculturists, and those chiefly to supply special articles of food for the convicts and staff, such as vegetables, tea, coffee, and cocoa. But agriculture is the main source of livelihood among the 'self-supporters,' whose labours have contributed to the solid progress of the Settlement. The area of cleared land has increased from 10,421 acres in 1881 to 25,189 in 1905, and that of cultivation from 6,775 to 10,364 acres. Although the working of the regulations has very largely reduced the number of 'self-supporters' in the last decade, the result of steady agricultural labour for many years is shown by increased productive capacity in the land, and a rise in the prosperity of the 'self-supporters.' The value of supplies purchased from these rose from £1,913 in 1874 to £3,260 in 1881, £3,572 in 1891, and £7,116 in 1901.

Revenue system.

All the land in the Penal Settlement is vested in the Crown, and all rights in it are subject to the orders of the Government of India. Practically the land is held at a fixed rent under licence from the Chief Commissioner, on conditions which, *inter alia*, subject devolution and transfer to his consent, and determine the occupation on compensation of a year's notice or on breach of the conditions. The working of the rules, framed primarily to meet the requirements of the 'self-supporter' convicts, is

in the hands of the District officers, through *amīns* or native revenue officials. Village revenue papers like those maintained in India are kept up, and fixed survey fees are demanded.

House sites, except those of cultivators which are free, are divided into four classes, and a tax is levied varying from Rs. 2 to Rs. 25 according to the net annual income of the holders.

Land for cultivation is divided into valley and hill land, the rent being fixed according to quality with a maximum of Rs. 4–8 per acre for the valley and Rs. 2–4 for the hill land. Licences are given for five years, and may be surrendered on three months' notice. They are subject to special conditions for each holding, and to general conditions, among which are that the land may not be surrendered or transferred without permission, and that 5 per cent. of the amount paid by the transferee is paid to the Government as a fine. Similar conditions are attached to licences for house sites. Grazing fees are levied by licence for the use of the Government (common) lands for grazing or cutting grass for cattle, at the rate of Rs. 2 per annum per animal, and in the case of goats 8 annas per annum each; but cultivators may graze two bullocks free for each 5 to 15 *bīghas* ($1\frac{2}{3}$ to 5 acres) of land held by them.

'Self-supporters,' subject to good behaviour, can hold land on, *inter alia*, the following general terms: free rations and free use of village servants for six months; free grant of an axe, hoe, and *da*; rent, tax, and cess free for three to four years, with a limit of 5 *bīghas* if the land is uncleared jungle, or for one to two years with a limit of 10 *bīghas* if the land is already cleared. Double holdings are permitted up to two years. 'Self-supporters' must not sublet or alienate their holdings, must occupy them effectively, must assist in making village tanks, roads, and fences, and must keep houses and villages clean and in good repair. Their houses may be sublet, with permission, but only to other 'self-supporters,' as free men and convicts may not live together in villages.

The following cesses and fees are levied: educational cess, collected with the revenue on house sites and land, according to grade, from Rs. 3 to 6 annas per annum; village conservancy fees, from 4 to 2 annas per house per mensem, collected monthly; *chaukīdāri* (village officials) fees, 4 annas per house or lodger per mensem, collected monthly; *sālutri* (veterinary) fees, raised from possessors of cattle to provide for veterinary care and inspection of village cattle, at about half the educational cess.

The village officials, who receive fixed salaries, are the *chaudhri* (headman) and the *chaukīdār* (watchman). The *chaudhri* is the head of the village, responsible for its peace and discipline, and for assistance in the suppression of crime. He is the village tax collector,

auctioneer, and assistant land revenue official. The *chaukīdār* is his assistant.

Generally speaking a 'self-supporter' has an income of from Rs. 7 a month upwards, and an agricultural 'self-supporter' can calculate on a net income of not less than Rs. 10 a month. As the peasantry of India go, the 'self-supporter' is well off. The free resident population are probably not in so good circumstances, so far as it depends on the land.

Forests.

The forests are worked by officers of the Indian Forest department as nearly as may be on Indian lines, and the Settlement is divided into afforested and unafforested lands. The 'reserved' forest areas amount to about 156 square miles. As little change as possible is made in these, but the growing condition of the Settlement makes it sometimes imperative to effect small alterations in area. The Forest department superintends the extraction of timber and firewood, and the construction of tramways; but the conversion of timber at the steam saw-mill on Chatham Island is done by the Public Works department. In 1904–5 the Forest department employed 1,102 men. Elephants are used to drag logs from the forests to tramways or the sea, and rafts are towed by steamers to Port Blair. This is a comparatively new department for utilizing convict labour, and is now the chief source of revenue in cash. The earnings under this head have increased from 1·6 lakhs in 1891 and 2·8 lakhs in 1901 to 6·2 lakhs in 1904–5. In the last year the total charges amounted to 3·4 lakhs.

Trade and manufactures.

Although the 'self-supporters' and the free residents follow occupations other than agriculture and Government service, the numbers so employed have but a comparatively small effect on the industries of the Settlement, and practically all the labour available is found by the labouring convicts. There is an unlimited variety of work, as can be seen from the following list of objects on which they are employed: forestry, land reclamation, cultivation, fishing, cooking, making domestic utensils, breeding and tending animals and poultry, fuel, salt, porterage by land and sea, ship-building, house-building, furniture, joinery, metal-work, carpentry, masonry, stone-work, quarrying, road-making, earthwork, pottery, lime, bricks, sawing, plumbing, glazing, painting, rope-making, basket-work, tanning, spinning, weaving, clothing, driving machinery of many kinds and other superior work, signalling, tide-gauging, designing, carving, metal-hammering, electric-lighting, clerical work and accounting, hospital compounding, statistics, bookbinding, printing, domestic and messenger service, scavenging, cleaning, petty supervision. The machinery is large and important, and some of the works are on a large scale.

The general heads of employments of labouring convicts appear from the following abstract of the labour statement on December 21, 1906 :—

Ineffective (excluding departments), 2,256.	Departmental employ, 3,081.	Supervising establishment (excluding departments), 969.	Fixed establishments, 2,602.
Sick and weakly 1,355 Lunatics . . 219 Lepers . . 53 In jails . . 572 Others . . 57	Commissariat 727 Marine . . 448 Medical . 316 Forest . 1,122 Tea . . 317 Other departments . 151	Petty officers . 969	Boats . . 259 Private service 205 Government service . 153 Station service 892 Supplies . 453 Conservancy . 141 Others . . 499
Fixed works, 1,516.	Artificer corps, 849.	Miscellaneous labour, 995.	Females, 348.
Workshops. . 413 Quarries . . 61 Potteries . . 4 Brickfields . . 590 Jail buildings . 448	Artificers . 448 Coolies. . 401	At disposal of officers for repairs . 995	Jail labour . 348

In the Phoenix Bay workshops a great variety of work is performed, under the heads of supervision, general, machinery, wood, iron, leather, silver, brass, copper, tin ; and attached to the shops are a foundry, a tannery, and a limekiln. This department is always growing. The whole of the out-turn is absorbed locally, and no export trade is undertaken. The work done has nearly all to be taught to the convicts employed, and is performed partly by hand and partly by machinery. By hand they are taught to make cane-work of all sorts, plain and fancy rope-making, matting, fishing-nets, and wire-netting. They do painting and lettering of all descriptions. They repair boilers, pumps, machinery of all sorts, watches and clocks. In iron, copper, and tin, they learn fitting, tinning, lamp-making, forging, and hammering of all kinds. In brass and iron they perform casting in large and small sizes, plain and fancy, and hammering. In wood they turn out all sorts of carpentry, carriage-building, and carving ; and in leather they make boots, shoes, harness, and belts. They tan leather and burn lime. By machinery, in iron and brass, they perform punching, drilling, boring, shearing, planing, shaping, turning, welding, and screw-cutting. In wood they learn sawing, planing, tonguing, grooving, moulding, shaping, and turning ; and in wheel-making they do the spoke-tenoning and mortising. Machinery is continually being added, in order to relieve labour for forestry and agriculture, the two descriptions of employment which are best calculated to make the Settlement completely self-supporting. Machinery will make it industrially, and forestry and

agriculture financially, independent: points that are never lost sight of and control the labour distribution.

The work of the Marine department about Phoenix Bay is chiefly connected with the building, equipment, and working of the steam-launches, barges, lighters, boats, and buoys maintained.

In the female jail women are employed on the supply of clothing, but they also do everything else necessary for themselves; and the only two men allowed to work inside the jail are the Hospital Assistant and the jail carpenter.

The bulk of the exports consist of timber, empties belonging to the Commissariat department, canes and other articles of jungle produce, edible birds'-nests, and trepang. The imports consist chiefly of Government stores of various kinds, private provisions, articles of clothing, and luxuries.

Communications.

The means of communication are good, and may be grouped as by water about the harbour, by road, and by tram (animal and steam haulage). Eight large and two small steam-launches, and a considerable number of lighters, barges, and boats of all sizes are maintained. Sailing boats, except for the amusement of officers, are, for obvious reasons, not permitted. Several ferries ply at frequent intervals across the harbour. The roads are metalled practically everywhere, and are unusually numerous. Where convicts are concerned, it is a matter of importance to be able to move about quickly at very short notice. The roads include about 110 miles of metalled and about 50 of unmetalled routes. The tram-lines by animals are chiefly forest, and their situation varies from time to time according to work. The steam tram-lines are from Settlement Brick-fields to South Quarries and Firewood area, 5 miles; North Bay to North Quarries, 2 miles; Forest Wimberley Ganj to Shoal Bay, 7 miles; Bājajāgda to Constance Bay and Port Mouat, 6 miles. Short lines are maintained at a number of other places.

The harbour of Port Blair is well supplied with buoys and lights. The lighthouse on Ross Island is visible for 19 miles, and running-in lights, visible 8 miles from both entrances to the harbour, are fixed on the Cellular Jail at Aberdeen and on South Point. There is also a complete system of signalling (semagraph) by day and night on the Morse system, worked by the police. Local posts are frequent, but the foreign mails are irregular. Wireless telegraphy between Port Blair and Diamond Island off the coast of Burma has been worked successfully since 1905, and the various portions of the Settlement are connected by telephone.

The external postal service is effected by the Port Blair post office, which is under the control of the Postmaster-General, Burma. The Chief Commissioner, however, regulates the relations of the post

office with convicts. The following table gives statistics of the postal business:—

	1890-1.	1900-1.	1904-5.
Number of post offices	1	1	1
Total number of postal articles delivered:—			
Letters	69,082	65,112	82,498
Postcards	7,150	18,360	19,474
Packets	3,328	38,316*	18,018
Newspapers	36,686	10,620†	21,476
Parcels	3,276	2,568	3,952
Value of stamps sold to the public Rs.	4,305	3,810	3,510
Value of money orders issued . Rs.	‡	1,40,820	1,60,372
Savings bank deposits by convicts. Rs.	§	§	25,550

* Including unregistered newspapers.
† Registered as newspapers in the Post Office.
‡ The figures are included in those given for Bengal.
§ No returns issued.

Finance.

The penal system is primarily one of discipline, financial considerations giving way to this all-important point. The labour of the convicts is firstly disciplinary; secondly, it provides for the wants of the Settlement so far as these can be supplied locally; thirdly, it is expended on objects directly remunerative. All necessary expenditure in cash is granted directly by the Government of India, and against this are set off the earnings of the convicts in money. The following table gives the total receipts and expenditure for a series of years, in thousands of rupees, but a considerable variation occurs from year to year:—

	1891.	1901.	1905-6.
Receipts, total	4,74	5,71	9,10
Expenditure, total	12,97	17,34	21,86
Net cost of Settlement	8,23	11,63	12,77
" " per convict . Rs.	69-10-11	99-4-9	88-4-3

The value of convict labour expended on local work and supplies is not included.

The net cash cost of the convict at any given period depends on how far convict labour is employed on objects returning a cash profit, and also on the number of 'self-supporters,' who supply local products at a far smaller cost than those procured from places outside the Settlement. Since 1891, very large jails and subsidiary buildings have been under construction, absorbing labour which could otherwise have been employed in the forests and on other objects remunerative in cash, while the number of 'self-supporters' has been greatly reduced by a change in the regulations, resulting in a reduction of agricultural holdings and the amount of jungle cleared annually. Both of these

arrangements are disciplinary, and illustrate the dependence of cost on general policy.

The following table shows the progress of the principal sources of revenue and expenditure, in thousands of rupees:—

	1890-1.	1900-1.	1905-6.
Land revenue	35	36	31
Forests	1,58	2,78	5,83
Other heads	2,81	2,57	2,96
Total revenue	4,74	5,71	9,10
Salaries, establishment, and contingencies	1,20	1,38	1,23
Tea cultivation	16	30	25
Education	5	5	6
Medical	37	40	44
Ecclesiastical	8	8	10
Commissariat establishment and supplies	4,14	6,10	7,18
Marine	12	22	25
Jail	10	24	28
Police	1,37	1,46	1,40
Subsistence money to convicts	92	71	88
Forest establishment and supplies	1,75	2,85	5,00
Clothing for convicts and police	33	38	58
Public works	26	71	1,09
Purchase of stores	36	58	1,20
Passage money and freight on stores	1,63	1,73	1,75
Other charges	13	15	17
Total expenditure	12,97	17,34	21,86

Public works.

The public works are constructed and maintained in all branches by the artificer corps, an institution going back historically long beyond the foundation of Port Blair in the Indian penal settlement system. Men who were artisans before conviction, and men found capable after arrival, are formed into the artificer corps, which is divided into craftsmen, learners, and coolies. This corps is an organization apart, has special privileges and petty officers of its own, known as foreman petty officers, who labour with their own hands, and also supervise the work of small gangs and teach learners.

The total strength of the British and Native army stationed in the islands in 1905 was 444, of whom 140 were British. The Andaman Islands now belong to the Burma division. The military station, Port Blair, is attached to Rangoon, and is usually garrisoned by British and Native infantry. Port Blair is also the head-quarters of the South Andaman Volunteer Rifles, whose strength is about 30.

The police are organized as a military battalion 701 strong. Their duties are both military and civil, and they are distributed all over the

Settlement in stations and guards. They protect the jails, the civil officials, and convict parties working in the jungles, but do not exercise any direct control over the convicts.

Education.

The 'local-born' population is better educated than is the rule in India, as elementary education is compulsory for all male children of 'self-supporters.' The sons of the 'local-born' and of the free settlers are also freely sent to the schools, but not the daughters; fear of contamination in the latter case being a ruling consideration, in addition to the usual conservatism in such matters. A fair proportion acquire a sufficient knowledge of English for clerkships. Provision is also made for mechanical training to those desiring it, though it is not largely in request, except in tailoring; and there is a fixed system of physical training for the boys. Native employés of Government use the local schools for the primary education of their children. Six schools are maintained, of which one includes an Anglo-vernacular course, while the others are primary schools. In 1904-5 these contained 152 boys and 2 girls of free parents, and 55 boys and 40 girls of convict parents; and the total expenditure was Rs. 5,360. Owing to mistakes in enumeration, the census returns for literacy are of no value.

Medical.

There are four district and three jail hospitals in charge of four medical officers, under the supervision of a senior officer of the Indian Medical Service. Medical aid is given free to the whole population, and to Government officials under the usual Indian rules. The convicts unfit for hard labour are classed as—sick and detained in hospital, convalescents, light labour invalids, lepers, and lunatics. For each of these classes there are special rules and methods of treatment under direct medical aid. Practically every child born in the Settlement is vaccinated.

Port Canning.—Village in the District of the Twenty-four Parganas, Bengal. *See* CANNING, PORT.

Porto Novo.—Town and port in the Chidambaram *tāluk* of South Arcot District, Madras, situated in 11° 30′ N. and 79° 46′ E., at the mouth of the Vellār river. Population (1901), 13,712, more than a fourth of whom are Musalmāns. It is known in Tamil as Parangipettai, or 'Europeans' town,' and is one of the two ports of the District. The Portuguese founded here, during the latter part of the sixteenth century, the first European settlement on the Coromandel coast within the limits of the Gingee country. An English settlement was established in 1683. In 1780 the town was plundered by Haidar Alī, and in July of the following year was fought in its vicinity the famous battle between Sir Eyre Coote and Haidar, in which the former won a signal victory. The battle was one of the most decisive of all those fought with Haidar's troops, for had the British retreated the whole

Carnatic would have been at Haidar's mercy. The place was twice captured by the French and was finally restored to the British in 1785. Porto Novo is a Union under the Local Boards Act and contains a salt factory. It had once a considerable trade with Ceylon and Achin, but this has declined. The value of the exports and imports in 1903-4 was Rs. 12,50,000 and Rs. 59,000 respectively. The only special manufacture is a species of mat made from the leaves of the screw-pine. The Porto Novo ironworks attained much notoriety in the early years of the last century. Their melancholy history is referred to in the account of SOUTH ARCOT DISTRICT.

Portuguese Possessions.—These consist of the territories of Goa, Damān, and Diu, lying wholly within the limits of the Bombay Presidency, and governed by a Governor-General of Portuguese India, resident at Goa city. They cover a total area of 1,470 square miles and contain a population (1900) of 531,798, distributed as follows:—

	Area.	Population.
Goa	1,301	475,513
Damān	149	41,671
Diu	20	14,614

Their total revenue in 1903-4 was 23 lakhs. A description and history of these possessions will be found under the articles GOA, DAMĀN, and DIU.

Porumāmilla.—Town in the Badvel *tāluk* of Cuddapah District, Madras, situated in 15° 1′ N. and 79° E. Population (1901), 5,522. It possesses a fine tank. There are the ruins of an old fort to the north of the town, and the place was formerly the seat of a local chieftain. An inscription on stone in front of the temple of Bhairava, which stands on an eminence close to the tank, is dated A. D. 1369, and records that Bukka Bhūpati's son Bhāskara Bhūpati, who reigned at Udayagiri, constructed the tank. The date corresponds with that of the reign of Bukka I of Vijayanagar; and if this be the chief mentioned, the inscription is of importance. There is a very old temple of Lakshmīkāntaswāmi in the town, which is said to have been repaired by the above-mentioned Bhāskara Bhūpati. To the west of the place, on the bank of the Sagileru river, are some stone cromlechs.

Pothanūr.—Village and railway junction in Coimbatore District, Madras. *See* PODANŪR.

Pottangi.—*Zamīndāri tahsīl* in the Agency tract of Vizagapatam District, Madras. It is situated on both slopes of the Eastern Ghāts, and so is hilly in character and for the most part covered with jungle, though a great quantity of this has been destroyed. The main road to the Jeypore estate from the low country passes through

it. Area, 625 square miles; population (1901), 73,013 (chiefly hill tribes), compared with 77,641 in 1891; number of villages, 920. The head-quarters are at Pottangi. The *tahsīl* is entirely *zamīndāri* land, belonging to the Jeypore and Pāchipenta estates.

Prāgjyotisha.—Subsequently called Kāmarūpa, the name of an ancient kingdom which at the time of the Mahābhārata comprised Assam and a great part of Northern and Eastern Bengal. It stretched westwards as far as the Karatoyā river, and included a portion of Rangpur District. It was ruled by a succession of princes of Mongoloid stock.

Prakāsha.—Town in the Shāhāda *tāluka* of West Khāndesh District, Bombay, situated in 21° 31′ N. and 74° 25′ E., 45 miles north-west of Dhūlia at the junction of the Tāpti river with two of its tributaries. Population (1901), 3,687. East of the town stands an old temple of Gautameshwar Mahādeo, in whose honour a great Hindu fair is held every twelve years, when the planet Jupiter enters the constellation Leo. There are several other interesting temples in the neighbourhood. The municipality, established in 1870, has recently been abolished. The town contains a boys' school with 165 pupils.

Prāng.—Town in the Chārsadda *tahsīl* of Peshāwar District, North-West Frontier Province, situated in 34° 8′ N. and 71° 49′ E., above the junction of the Swāt and Kābul rivers, 16 miles north-east of Peshāwar. It is practically a portion of the town of CHĀRSADDA. The population, apart from Chārsadda, in 1901 was 10,235, consisting chiefly of Muhammadzai Pathāns.

Prānhita ('helpful to life').—River in the Central Provinces, formed by the united streams of the WARDHĀ and WAINGANGĀ, whose junction is at Seonī in Chānda District (19° 36′ N. and 79° 49′ E.). From here the river has a course of 72 miles, until it joins the Godāvari above Sironchā. Throughout its length the Prānhita is the western boundary of Chānda District and of the Central Provinces, which it separates from the Hyderābād State. Its bed is broad and sandy, with the exception of a long stretch of rock below the confluence at Seonī.

Pratāpgarh.—State and capital thereof in Rājputāna; and also District, *tahsīl*, and town in the United Provinces. *See* PARTĀBGARH.

Pratāpgarh.—Fortress in the Jāvli *tāluka* of Sātāra District, Bombay, situated in 17° 55′ N. and 73° 35′ E., 8 miles south-west of Mahābaleshwar, on a summit of the Western Ghāts commanding the Pār *ghāt*, and dividing one of the sources of the Sāvitrī from the Koyna, an affluent of the Kistna. The fort, 3,543 feet above sea-level, looks from a distance like a round-topped hill, the walls of the lower fort forming a sort of band or crown round the brow. The western and northern sides are gigantic cliffs, with an almost vertical drop in many

places of 700 or 800 feet. The towers and bastions on the south and east are often 30 to 40 feet high, while there is in most places a scarp of naked black rock not much lower. In 1656 Sivajī, the founder of the Marāthā power, selected this almost impregnable position as one of his principal forts. Pratāpgarh was the scene of his treacherous murder of the Muhammadan general Afzal Khān, who had been sent against him by the Sultān of Bijāpur. In 1659 Sivajī decoyed Afzal Khān to a personal interview by a pretended submission, the two leaders being each attended by a single armed follower. Sivajī stabbed the Musalmān general, and gave the signal to his ambushed army to attack the Muhammadan troops, who, bewildered by the loss of their chief, were utterly routed. In the Marāthā War of 1818 Pratāpgarh was surrendered to the British by private negotiation, though it was an important stronghold and was held by a large garrison.

Prempur.—Petty State in MAHĪ KĀNTHA, Bombay.

Presidency Division.—Commissionership of Bengal, extending from the Ganges on the north to the Bay of Bengal on the south, and lying between 21° 31′ and 24° 52′ N. and 87° 49′ and 89° 58′ E. The head-quarters of the Commissioner are at CALCUTTA, and the Division includes six Districts with area, population, and revenue as shown below :—

District.	Area in square miles.	Population, 1901.	Land revenue and cesses, 1903-4, in thousands of rupees.
Twenty-four Parganas	4,844	2,078,359	20,32
Calcutta . . .	32	847,796	18
Nadiā . . .	2,793	1,667,491	10,94
Murshidābād . .	2,143	1,333,184	12,14
Jessore . . .	2,925	1,813,155	10,60
Khulnā . . .	4,765	1,253,043	9,24
Total	17,502	8,993,028	63,42

NOTE.—Calcutta is not strictly speaking a District of the Presidency Division, but it is usual and convenient to treat it as such. In the *Census Report* of 1901 the area of the Twenty-four Parganas was shown as 2,108 square miles, excluding the Sundarbans; the area given above, supplied by the Surveyor-General, includes 2,941 square miles in the Sundarbans. The area of Khulnā similarly includes 2,688 square miles in the Sundarbans.

The population was 7,427,343 in 1872 and 8,211,986 in 1881; in 1891 it had grown to 8,535,126 and in 1901 to 8,993,028. The average density is 514 persons per square mile, compared with 474 for Bengal as a whole. Fifty per cent. of the population are Hindus and 49 per cent. Musalmāns; the remaining 1 per cent. includes 62,416 Christians, of whom 30,993 are natives, 12,842 Animists, 3,005 Buddhists, 2,245 Jains, and 1,938 Brahmos. The area of the Division, which is known as Central Bengal, corresponds approximately to the

old kingdom of Banga or Samatata, and to Ballāl Sen's division of Bāgri (or Bāgdi). The Division is bounded on the west by the Bhāgīrathi river and on the east by the Madhumatī, and forms the western extremity of the Ganges delta. Its northern Districts have been gradually raised above flood-level; and the great rivers, which formerly flowed through them, have shrunk to insignificance, and no longer fulfil their old functions of depositing silt and supplying good drinking-water. Their head-waters have been silted up and their channels are often so high that they are no longer able to carry off the drainage of the surrounding country, which has thus become far less healthy and fertile than it was formerly. The District of Khulnā is an exception to these conditions and still forms part of the true delta. Along the sea-coast, in the south of the Twenty-four Parganas and Khulnā District, the SUNDARBANS extend over an area of 5,629 square miles. This tract is a region of low-lying islands, intersected by a network of rivers and cross channels. In the north it is being gradually reclaimed for cultivation, while in the south it is covered with valuable forests, and on the sea-board the process of land-making is still going on. Central Bengal possesses few distinctive ethnical features; but its southern portion is the main habitat of the Pods, who are closely allied to the Chandāls, and who with them are probably the descendants of the first of the Mongolian invaders from the north-east. The Kaibarttas and Bāgdis have overflowed from Western Bengal, and the Chandāls from the east.

The Division contains 46 towns and 20,496 villages. The urban population forms 16 per cent. of the whole; the greater part of it is found in Calcutta and in its great industrial suburbs on the banks of the Hooghly river. The principal industries in these towns are the manufacture of gunny-bags, the baling of jute for export, paper-making, and cotton-spinning. Murshidābād District is one of the seats of the silk industry. The largest towns are CALCUTTA (847,796), with its suburbs COSSIPORE-CHITPUR (40,750), MĀNIKTĀLA (32,387), GARDEN REACH (28,211), SOUTH SUBURBS (26,374) and BARANAGAR (25,432); SĀNTIPUR (26,898), KRISHNAGAR (24,547), BERHAMPORE (24,397), NAIHĀTI (13,604), and BHĀTPĀRA (21,540). Among its other towns may be mentioned NABADWĪP, an ancient capital of the Sen kings of Bengal; and MURSHIDĀBĀD, for many years the seat of the Muhammadan Nawābs. The early history of Calcutta is intimately associated with the beginning of British rule in India.

Proddatūr Tāluk.—Northern *tāluk* of Cuddapah District, Madras, lying between 14° 36′ and 15° 2′ N. and 78° 26′ and 78° 53′ E., with an area of 478 square miles. The Nallamalai Hills form a natural frontier on the east, while in the south the tract is bounded by the Cuddapah *tāluk* and the Penner river. The population in 1901 was

102,570, compared with 98,418 in 1891. It contains one town, PRODDATŪR (population, 14,370), the head-quarters; and 86 villages. The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,58,000. Owing to its fertile black soil, Proddatūr is the most densely peopled *tāluk* in the District, its population, who are mainly Telugus, numbering 215 per square mile, compared with an average of 148 for the District as a whole. 'Cuddapah slabs' are much used for building. About one-fourth consists of 'reserved' forest, most of which lies on the Nallamalais. The KURNOOL-CUDDAPAH CANAL traverses it. Cotton is the principal product. There are no manufactures except indigo.

Proddatūr Town.—Head-quarters of the subdivision and *tāluk* of the same name in Cuddapah District, Madras, situated in 14° 44′ N. and 78° 33′ E. Population (1901), 14,370. It contains a District Munsif's court, and two cotton-presses which work during the cotton harvest.

Prome District.—District in the Pegu Division of Lower Burma, stretching across the valley of the Irrawaddy between 18° 18′ and 19° 11′ N. and 94° 41′ and 95° 53′ E., with an area of 2,915 square miles. It is bounded on the north by Thayetmyo District; on the east by the Pegu Yoma; on the south by Henzada and Tharrawaddy Districts; and on the west by the Arakan Yoma. The Irrawaddy flows through the District from north to south, dividing it into two portions, differing considerably in area, appearance, and fertility. To the west of the river lies the Padaung township, constituting about one-third of the total area of the District. Here the country is broken up by thickly wooded spurs from the Arakan Yoma into small valleys, drained by short and unimportant tributaries of the Irrawaddy, and but little cultivated. The remaining six townships lie to the east of the Irrawaddy. North and north-east of Prome town the country resembles that on the Padaung side; for the forest-covered spurs of the Pegu Yoma form numerous valleys and ravines, stretching as far as the Irrawaddy, and watered by torrents which, as they proceed south-west towards level country, eventually unite into one large stream called the Nawin, spanned by a wooden bridge to the north of Prome. The south and south-west consist of a large and well-cultivated plain, intersected by low ranges with a general north and south direction, the chief of which are called the Prome hills. Towards the east and south-east this fertile tract is drained by streams, shut out from the Irrawaddy by the Prome hills, and sending their waters into the Inma Lake, from which the Myitmakā (known farther south as the Hlaing) flows seawards in a line parallel to that of the Irrawaddy. The Inma, the only lake of any size, is 10 miles long and 4 wide in the

Physical aspects.

broadest part. It is 12 feet deep during the rains, but practically dries up in the dry season.

The hills that bound the District, the Pegu Yoma on the east and the Arakan Yoma on the west, are geologically dissimilar. The eastern range, in common with the whole country lying between the Irrawaddy and Sittang rivers (with the exception of an outlier or two of crystalline rocks near Toungoo), is composed of beds none of which is older than the miocene or Middle Tertiary period, while the western range consists of two groups of beds, a newer of eocene or Early Tertiary age, and an older group of (probably) Triassic age, with here and there scattered outcrops of serpentine. The Pegu group, made up of the Pegu range and the greater part of the District east of the Irrawaddy, as well as a tract to the west of that stream, may be divided into three parts—lower, middle, and upper. The lower division consists mainly of a series of beds of blue clay, which seem entirely devoid of fossils, and may, it is conjectured, have a thickness of 400 feet. The middle division is represented by a considerable thickness of massive argillaceous sandstone grits and shales, the latter predominating towards the base. These beds are generally devoid of fossils, and can be seen to the best advantage in the gorge above Prome. The upper division, not less than 600 feet thick, contains shales and sandstones, and is extremely rich in fossils, apparently of Middle Tertiary age. The bed at the base of this division forms the river bank nearly opposite Prome.

The vegetation is mainly composed of deciduous forests, which can be divided into *in* forests, upper mixed forests, dry forests, and savannah forests. The *in* forests are mainly characterized by *in* (*Dipterocarpus tuberculatus*), and are similar to those described under PEGU DISTRICT, as also are the upper mixed forests, in which teak is abundant. The dry forests are characteristic, and contain among their chief constituents *Dalbergia cultrata*, *Diospyros burmannica*, *Buchanania latifolia*, and *Crataeva religiosa*, and among shrubs *Thespesia Lampas*, *Barleria cristata*, *B. dichotoma*, *Calotropis*, *Clerodendron infortunatum*, and *Bambusa Tulda* and *B. stricta*. In certain areas *sha* (*Acacia Catechu*) forms a conspicuous part of the vegetation. The river is bordered with savannah forests (described under HANTHAWADDY DISTRICT) and many widespread weeds—*Amaranthus*, *Rumex maritimus*, *Polygonum*, *Ranunculus sceleratus*, and others.

The fauna is of the usual type. One of the most characteristic wild animals of Burma, the *thamin* or brow-antlered deer, abounds in the high grounds to the east of Prome. The elephant and the rhinoceros are found, but only in the Arakan Yoma.

The climate of Prome is much drier than that of the rest of the Pegu Division, and its temperature has a wider range, from about 60° in January to 100° in June. The District has a lighter rainfall

than any other District of Lower Burma, except Thayetmyo; it is fairly regular and well distributed, the average for the last decade being 48 inches for the whole District, 43 inches at Prome, 48 inches at Shwedaung, and 53 inches at Paungde.

History.

The Burmese name for Prome is *Pyi*; and according to tradition the once-flourishing kingdom of Prome was founded by a king named Dutabaung, of the Pyu tribe, who with the Arakanese and other tribes constituted the Burman race in the remote past. Early accounts place the foundation of Tharekhettra, the old capital, in the year after the second great Buddhist Council, held in 443 B.C. Of this ancient city only a few embankments and pagodas remain in marshy ground 5 or 6 miles from Prome. Later on, we hear of a reigning house founded by one Tepa, which, as there is no record of a subsequent line, probably lasted till the first break-up of the kingdom of Prome. There is little of historical value in the ancient Prome chronicles; but these seem to point to the conclusion that the Pyus were members of the Burman race, who, cutting themselves off at an early date from the parent stock, then concentrated at Tagaung, and struck off down the Irrawaddy valley till they were brought up by the Talaing dominion on the edge of the delta, where they halted and formed a principality of their own. Little credence can be given to the stories of the early kings, but it seems clear that during the early centuries of the Christian era the Pyus suffered defeat at the hands of the Talaings. The year 104 B.E. (A.D. 742) is given as the date of the destruction of Prome by the Peguans. With the overthrow of the Pyu dynasty the reigning house is said to have withdrawn north again, and founded a new kingdom at Pagan; and it seems probable that the sack of Prome in the eighth century was more or less connected with one of the movements which culminated in the glories of mediaeval Pagan. The Talaings never had a firm hold over Prome. We hear later of an independent kingdom; and it was in the neighbourhood of Prome that the forces of Prome, Ava, and Arakan were defeated by a Toungoo army in 1542. In the middle of the eighteenth century Prome was, however, held by the Talaings, and the town was the scene of much carnage during the operations which ended in the overthrow of the Peguans by the Burmese conqueror Alaungpayā. Prome played a not inconspicuous part in the first Burmese War, for the investment of the town by a Burman army of 60,000 men in 1825, and the defeat of this force by Sir A. Campbell, constituted one of the most decisive features of the campaign. The town was temporarily occupied in the second Burmese War by a small force under Commander Tarleton, and the subsequent defeat of the Burman leader by General Godwin confirmed its possession by the British in 1852. The timely rebellion of Mindon

Min caused the withdrawal of the Burman troops from the District during the rest of the war, and there has been no serious trouble since its annexation in 1852.

The chief objects of archaeological interest are two pagodas, the Shwesandaw and the Shwenattaung. The former is 80 feet high and stands, its gilded cone conspicuous from afar, on a platform of stone on a hill in Prome town. Various tales describe its foundation, and it is supposed to contain four hairs from Gautama's head. It has been repaired and enlarged from time to time, and the festival in November is numerously attended. The Shwenattaung pagoda lies in the Shwedaung township, 14 miles south of Prome, and tradition makes the wife of Dutabaung its foundress. It is said to be the repository of certain relics of Gautama, and its eight-day festival in March is attended by thousands.

Population.

The population of the District at the last four enumerations was: (1872) 280,288, (1881) 328,905, (1891) 368,977, and (1901) 365,804. The distribution according to townships in 1901 is shown in the following table:—

Township.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Prome . .	9	1	*Nil*	27,375	3,042	− 9	10,654
Paukkaung .	694	...	241	29,797	43	− 7	5,205
Hmawza . .	273	...	447	68,591	251	− 13	16,040
Paungde . .	379	1	250	60,604	160	+ 7	13,548
Thegon . .	241	...	296	60,982	253	+ 15	13,533
Shwedaung .	300	1	311	66,743	222	+ 1	16,837
Padaung . .	1,019	...	216	51,712	51	− 1	11,971
District total	2,915	3	1,761	365,804	125	− 1	87,788

The rural population (excluding Prome, Paungde, and Shwedaung towns) is 316,537, distributed in 1,761 villages, giving a density of 109 persons per square mile. Away from the Irrawaddy valley, in the forest areas of the Paukkaung and Padaung townships, the population is sparse. Prome is one of the very few Districts of Burma which returned a smaller population in 1901 than in 1891. The decrease is due to the emigration of Burmans from Prome town and the neighbouring country, and from the hill tracts in the east and west of the District, to the more generous rice-bearing areas of the delta. The other portions of the District, especially the townships of Thegon and Paungde, lying on either side of the railway, have increased in population. The people are nearly all Buddhists, the total professing the faith of Gautama numbering 351,000 in 1901. Hindus and

Muhammadans are confined to the towns, and number only 2,600 each; and the total of Animists is 8,600. Burmese is the language of 94 per cent. of the people, but Karen and Chin are spoken in the hilly areas.

Burmans form 93 per cent. of the population, and are found everywhere except in the hills. There are 4,200 Karens, who nearly all retain their dialect, and 1,200 Shans, of whom rather more than half still talk their own vernacular. The Chins, living for the most part to the west of the Irrawaddy, number 11,600, and about 60 per cent. speak the Chin language. They are said all to profess Buddhism (though the census figures do not bear out this assertion), and those near the Burmese villages have adopted Burmese dress and dropped their own language. The number of people dependent on agriculture in 1901 was 251,300, or less by 7 per cent. than the corresponding total in 1891. Of these, 17,600 were supported by *taungya* or shifting cultivation.

There are only 481 Christians, half of whom are Baptists. The American Baptist Mission started work at Prome town in 1854, and now has centres at Prome, Paungde, and Inma. The Anglican and Roman Catholic Churches are also represented at Prome.

Agriculture.

The rainfall, though light, can on the whole be depended upon. The principal rice-tracts are in the Hmawza township, the middle of the Thegon and Paungde townships, and the Shwedaung township. In the rest of the District *taungya*, or shifting hill cultivation, is prevalent; in fact, the percentage of *taungya* cultivation is higher in Prome than in any other District in the Pegu and Irrawaddy Divisions. Field-work begins in the hot season with the carrying of manure to the ground. The custom of stabling the cattle provides the husbandman with a large supply of cow-dung, which is mixed with paddy husk before use. It is now usual to manure both nurseries and fields. The nurseries are sown broadcast and the rice is transplanted, not sown broadcast on the fields, as in Pegu District. For transplantation, and frequently for reaping, the able-bodied women work in gangs under chosen leaders. The custom of hiring a number of men for a fixed sum to reap the whole crop is unknown; in fact the rates of pay would not attract Burmans or natives of India from other Districts. The threshing is done in the villages, an arrangement which dispenses with the necessity for huts in the fields. Owing to the scarcity of cultivable waste, the rent paid by tenants is exceptionally high; in certain parts of the District as much as one-half of the crop is given to the landlord, who pays the revenue. Famine is unknown, in spite of the comparative dryness of the climate.

The cultivated area has increased from 372 square miles in 1880–1

to 437 square miles in 1891, and 500 square miles in 1903-4. The main agricultural statistics for 1903-4 are shown below, in square miles:—

Township.	Total area.	Cultivated.	Irrigated.	Forests.
Prome	9	2	...	2,005
Paukkaung	694	32	5	
Hmawza	273	125	37	
Paungde	379	86	11	
Thegon	241	93	2	
Shwedaung	300	87	...	
Padaung	1,019	75	6	
Total	2,915	500	61	2,005

More than a hundred varieties of rice are recognized, and this crop covered 428 square miles in 1903-4. Besides the ordinary cold-season crop a certain amount of *mayin*, or hot-season rice, is grown. The area under rice has increased by nearly 40 per cent. in the twenty years ending 1903. In 1903-4 gardens covered 33 square miles, and 3,700 acres were cultivated with tobacco on the banks and islands of the Irrawaddy. During the same year cotton was grown on the hills on 1,600 acres, as compared with 3,000 acres in 1882. Prome is famous for custard-apples, which are planted largely on the hill-slopes facing Prome town.

No improvements in cultivation are noted. Havana tobacco was experimentally introduced in 1903, but beyond this no new crops of importance have been tried. Without being actually prosperous, the cultivators are, on the whole, fairly well-to-do, and till recently have not resorted to Government for loans. No agricultural advances were granted during the ten years ending 1900, but a beginning was made with loans to the extent of Rs. 1,400 in 1901-2, and Rs. 7,440 in 1903-4.

There are plenty of cattle for ploughing, which are bred and trained in the District. Ponies, sheep, and goats are not bred locally. The cattle are kept under the houses and stall-fed. It has been found that there is little need for grazing grounds, and such as exist are but little used. This accounts for the unusually healthy state of the cattle, for there is little doubt that large grazing grounds tend to spread epidemics.

No large irrigation works have been constructed, but a few minor works exist in the Padaung and Paukkaung townships. The Inma Lake, an important fishery, is the only large natural reservoir. In all, 61 square miles were irrigated in 1903-4, of which nearly 9 were supplied from private canals. Of the total, about 38 square miles are situated in the Hmawza township. The fisheries are

comparatively unimportant, producing a revenue of Rs. 38,000 in 1903-4.

Forests.

The forest tracts fall naturally into two groups: those to the west of the Irrawaddy on the Arakan Yoma, and those to the east of the river on the Pegu Yoma. The latter can be subdivided again into two groups: those lying in the drainage of the Nawin in the north, and those in the drainage of the Shwele in the south. The former were worked to excess by the Burmans, but natural obstructions near the mouth of the Shwele fortunately preserved the Shwele forests from the indigenous methods of timber extraction. The Shwele has now been cleared, and the timber is worked departmentally by the Forest officials. The hill-slopes contain, besides teak, other valuable timbers, such as *pyingado* (*Xylia dolabriformis*), *padauk* (*Pterocarpus indica*), and *pyinma* (*Lagerstroemia Flos Reginae*). Between the hills and the river are large stretches of *in* and cutch forests, containing, in addition to these trees (*Dipterocarpus tuberculatus* and *Acacia Catechu*), useful growths such as *thitya* (*Shorea obtusa*), *thitsi* (*Melanorrhoea usitata*), and *ingyin* (*Pentacme siamensis*). The total area of 'reserved' forests is 538 square miles, and an area of 169 square miles is under settlement with a view to reservation. The forest receipts in 1903-4 were 9·7 lakhs. There are 1,467 square miles of 'unclassed' state forest.

No discoveries of metal or precious stones have so far been made. Large quantities of laterite and stone ballast are extracted from a hill near Hmawza by the Burma Railways Company, and small outcrops of coal have been met with in the Padaung township. Prospecting licences have been taken out for petroleum, but there has been no success so far.

Trade and communications.

Cotton- and silk-weaving are carried on throughout the District, the former for the most part as a subsidiary occupation. Silk-weaving is mainly pursued in the town of Shwedaung and in the neighbouring circles, where, in fact, every other house has a loom. The census returns in 1901 showed that there were more silk-weavers in Prome than in any other District of Burma, with the single exception of Mandalay. Cotton looms are plentiful throughout the country, and in most cases the family loom provides the members of the household with clothing. The only exceptional industry is sericulture, which was probably imported from China. It is carried on largely by the Yabein tribe, who live apart in their own villages, their occupation being offensive to the strict Buddhist. The method of manufacture is crude in the extreme. The eggs are hatched in a coarse cloth, and the worms swept into a tray and fed on mulberry leaves. After 30 days or so the larvae begin to spin, and when ready to commence this process,

are picked out with the hand, and thrown on to the cocooning tray, on which a plaited bamboo ribbon, about two inches wide, is coiled. To this ribbon the larvae attach their cocoons, and these, when ready, are torn off and put to simmer in a common pot. The filaments are then picked up with a fork and reeled on a bamboo reel suspended over the pot. The thread thus produced is coarse and dirty, and mixed with pupae and other refuse. The price of raw silk at the river-side markets is Rs. 5 to Rs. 6 a pound. Other manufactures are ornamental boxes for keeping palm-leaf books, coarse brown sugar, and cutch from the forest-covered townships. The *Acacia Catechu* is common, and in 1901 Prome returned a larger number of cutch-workers than any other District of Burma. In Prome town there is a steam rice-mill, employing 60 hands, and a steam saw-mill, employing 47; but on the whole, factory industries are poorly represented.

The main exports are paddy and timber. Paddy is sent by the railway to the south, and by the Irrawaddy steamers to Mandalay and intermediate towns, while teak from the Pegu Yoma is floated down the river in large quantities to Rangoon. A small amount of cotton is exported to Rangoon after a partial cleaning at Prome.

The principal imports are piece-goods, hardware, European goods, *ngapi*, and salted fish from Rangoon and other parts of the delta. The trade of Prome has declined somewhat since the opening of the Toungoo-Mandalay railway, as, previous to this, goods for Upper Burma were sent largely by rail to Prome town, and thence by steamer. This is still the route, however, for the passenger and mail traffic between Rangoon and a number of up-river stations, so that there is still a certain amount of transhipment business at Prome.

The Rangoon-Prome railway enters the District 5 miles from Paungde in the south, and runs through the middle of the Paungde, Thegon, and Hmawza townships to Prome, the terminus of the line. It has stations at Paungde, Padigon, Thegon, Sinmizwe, and Hmawza.

The Irrawaddy, flowing from north to south through the District, gives access to the Hmawza, Shwedaung, and Padaung townships; and an excellent system of metalled roads connects the remoter places in the District with the landing-places on the river or the stations on the railway. The Irrawaddy Flotilla Company's steamers provide a daily service from Prome to Thayetmyo, and from Prome to Henzada, and a tri-weekly service from Prome to Rangoon, and from Prome to Mandalay, stopping at river-side stations.

There are 91 miles of metalled and 116 miles of unmetalled roads maintained from Provincial funds. The main routes are the Prome-Rangoon road (mile 177 to mile 140) through Shwedaung and Paungde, and the road from Prome to Paukkaung, both of which are metalled and bridged. Unmetalled roads lead northwards into

Thayetmyo District, and westwards over the Arakan Yoma to Taungup in Sandoway District. A number of footpaths are bridged and embanked, but are not available for wheel-traffic. The most important of these is from Shwedaung to Nyaungzaye on the Irrawaddy. Roads maintained from Local funds connect the more important villages. Of the District cess fund roads, 7 miles are metalled and 84½ unmetalled.

Administration.

The District is divided into three subdivisions: Prome, containing the townships of PROME, PAUKKAUNG, and HMAWZA; Paungde, containing the townships of PAUNGDE and THEGON; and Shwedaung, containing the townships of SHWEDAUNG and PADAUNG. The executive staff is of the usual kind, the Paungde subdivision being generally in charge of an Assistant Commissioner. There are 669 village headmen. At head-quarters there are, besides the Deputy-Commissioner, a treasury officer, an *akunwun* (in charge of the revenue), and a superintendent of land records, with a staff of 4 inspectors and 34 surveyors. The District forms a subdivision of the Tharrawaddy Public Works division, and a Forest division with a subdivisional officer at Paungde.

Prome, with Tharrawaddy, forms the jurisdiction of a Divisional as well as of a District Judge: the District Judge has his head-quarters at Tharrawaddy, the Divisional Judge at Prome. There are, besides the Divisional and District Judges, two civil judges, one at Prome, presiding over the Prome and Hmawza township courts, the other at Paungde, presiding over the Paungde and Thegon township courts. These judges have Small Cause Court jurisdiction up to Rs. 50 in the Prome and Paungde municipalities respectively. The other township courts are presided over by the township officers. In addition to the District, subdivisional, and township magistrates, there is an additional magistrate at Paungde. The District is noted for cattle-thefts; but this form of crime is decreasing slowly, though in 1901 the number of convictions was as large as 411. Cattle-theft is kept down as much as possible by active co-operation between the village headmen, the magistrates, and the police, and by the patrolling by military police of the roads most used by cattle-thieves.

Previous to the British occupation the principal sources of revenue were land tax and a form of income tax. The latter was assessed by the local officers, who were guided mainly by the property of the person assessed, but no fixed rates were laid down. It would appear that in portions of the District half the produce was demanded from the cultivators. After annexation efforts were made to distribute the land tax properly, and acreage rates were introduced in 1862 for rice lands. There was a settlement of the richest portion of the District in 1867–8, and again in 1884–5; and in 1900–1 a revision of the rates

fixed in 1884–5 produced an increase of over a lakh, or nearly 30 per cent. The present rates on rice land vary from 6 annas to Rs. 2–6 an acre, and on gardens from 6 annas to Rs. 3. The average area of a holding at present is $5\frac{1}{2}$ acres, compared with 7 acres in 1881.

The steady growth of the revenue during the past twenty years may be gathered from the table below, which gives the figures in thousands of rupees. The total for 1903–4 includes 3 lakhs from capitation tax and 3·8 lakhs from excise.

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	2,88	3,16	3,92	4,81
Total revenue . .	7,44	9,06	9,49	13,00

There is a District cess fund, administered by the Deputy-Commissioner for the upkeep of roads and other local necessities. Its income (composed for the most part of a cess of 10 per cent. on the total land revenue) was Rs. 71,600 in 1903–4, and its expenditure Rs. 64,000, of which nearly one-third was devoted to public works. There are two municipalities: that of PROME, constituted in 1874, and that of PAUNGDE, in 1884. SHWEDAUNG has a town committee, which was formed in 1882.

The strength of the police is 406 of all ranks, under the orders of the District Superintendent. An Assistant Superintendent is in charge of the police in the Paungde subdivision. The force consists of 3 inspectors, 2 chief head constables, 6 head constables, 41 sergeants, and 352 constables, distributed in 14 police stations and 4 outposts. The military police number 166 of all ranks, 66 being stationed at Prome town, the rest distributed in the other six townships. The District possesses two jails, at Prome and Paungde, with accommodation for 325 and 177 prisoners respectively. The Paungde jail was built in 1900, taking the place of the old reformatory school, which had been used as a jail since 1896.

The percentage of literate persons in 1901 was 45 in the case of males, 4 in that of females, and 24 in the case of the two sexes together. The number of pupils was 8,946 in 1881, 8,851 in 1891, 10,201 in 1901, and 10,166 in 1903–4, including 1,093 girls. In the last year there were 19 secondary, 126 primary, and 428 elementary (private) schools in the District. The most important institutions are the schools at Prome and Paungde. Judging from the attendance and from the passes obtained, female education is making a steady advance. The total expenditure on education in 1903–4 was Rs. 44,600, municipal funds contributing Rs. 12,900 and Provincial funds Rs. 8,800, while Local funds provided Rs. 10,000 and fees Rs. 12,900.

The District contains hospitals at Prome, Paungde, and Shwedaung,

with 78 beds. In 1903 the number of cases treated was 30,179, including 1,011 in-patients, and 559 operations were performed. Towards a total expenditure of Rs. 13,800, municipal funds contributed Rs. 7,600 and Local funds Rs. 4,900.

Vaccination is compulsory only within municipalities, but the estimated percentage of protected persons in the District as a whole is fairly high. In 1903–4 the number of persons successfully vaccinated was 17,490, representing 48 per 1,000 of population. At one time small-pox was a scourge of particular virulence in Prome town, but vaccination has done much to reduce the ravages of this disease.

[W. E. Lowry, *Settlement Report* (1902).]

Prome Subdivision.—North-eastern subdivision of Prome District, Lower Burma, containing three townships: PROME, HMAWZA, and PAUKKAUNG.

Prome Township.—Township of Prome District, Lower Burma, consisting wholly of the municipality of Prome, with an area of 9 square miles. The non-municipal revenue raised in the township in 1903–4 amounted to Rs. 1,42,000, the greater part being excise. Land tax, levied in lieu of capitation tax, contributed Rs. 4,000. The cultivated area within the limits of the township fell from 3 square miles in 1890–1 to 2 square miles in 1903–4, and the agricultural population from 10,600 to 2,100 between the years 1891 and 1901.

Prome Town.—Head-quarters of the District of the same name in Lower Burma, situated in 18° 49′ N. and 95° 13′ E., on the eastern bank of the Irrawaddy, at the mouth of the Nawin, 161 miles by railway from Rangoon. The population, according to the last four enumerations, was as follows: (1872) 31,157, (1881) 28,813, (1891) 30,022, and (1901) 27,375. Of the population in 1901, Buddhists numbered 24,200, and Musalmāns and Hindus about 1,400 each. The number of Buddhists was approximately 3,000 lower than in 1891, whereas that of the Indian religions was about the same. It will thus be seen that the diminution in the past decade, for which various reasons have been assigned, is confined to the indigenous population. The town is well laid out, having been almost entirely destroyed in 1862; and is divided into several quarters, Nawin on the north, Ywabe on the east, Sinzu on the south, and Shweku and Sandaw in the centre. In a line skirting the high river bank are the municipal school, the courthouses, the church, and the telegraph office. The Strand road traverses the town from north to south, and from it well-laid roads run eastwards into the urban areas. North of Sinzu is the famous Shwesandaw pagoda, and in the Nawin quarter are the markets. The municipal water-works, opened in 1885, supply the town with water from the river.

The date of the foundation is not known. The original capital of

the kingdom of Prome was Tharekhettra, 5 or 6 miles inland. This was the ancient city, no doubt, which the early histories state was destroyed by the Talaings in the eighth century; and it was probably after the reigning dynasty had gone northwards to retrieve their shattered fortunes in Pagan that the remnant of the Pyus chose as their capital the existing town of Prome, destined in after time to be one of the chief centres round which the early peoples of the country struggled for the mastery in Burma. Prome was the scene of warlike operations in the sixteenth and eighteenth centuries, and its occupation and defence and the subsequent defeat of the Burmans near the town by the British in 1825 were among the conspicuous incidents of the first Burmese War. In the second Burmese War it was captured and occupied temporarily by Commander Tarleton, and three months later in the same year (1852) General Godwin's advance up the river placed the town in the occupation of the British, out of whose hands it has not passed since.

The principal industries are the manufacture of silk cloth, large gilt boxes for palm-leaf books, and lacquer-ware. A saw-mill and a rice-mill are at work in the town, but no other factories. Cotton, both local produce and imported from Upper Burma, is partially cleaned at Prome before export to Rangoon. The through trade has decreased since the opening of the Toungoo-Mandalay railway, goods being no longer sent for transhipment to the same extent as formerly.

Prome was constituted a municipality in 1874. The income during the ten years ending 1900 averaged Rs. 1,23,000, and the expenditure Rs. 1,20,000. In 1903-4 the receipts were Rs. 1,48,000, the chief sources being tolls on markets and slaughter-houses (Rs. 63,000), house and land tax (Rs. 12,000), and water rate (Rs. 17,000). The expenditure in the same year was Rs. 2,43,000, the chief heads being drainage (Rs. 16,000), conservancy (Rs. 40,000), and roads (Rs. 19,000). The amount devoted to the water-works was Rs. 82,000.

The municipality maintains a high school with 360 pupils, and in 1900 new school buildings were erected at a cost of Rs. 32,000. The annual municipal contribution towards education is Rs. 7,000. The hospital, maintained largely from municipal funds, has accommodation for 42 in-patients. Four beds are specially set apart for eye-diseases, which are exceptionally prevalent in Prome.

Pubna.—District, subdivision, and town in Eastern Bengal and Assam. *See* PĀBNA.

Pudukkottai State.—The third most important of the five Native States in political relations with the Government of Madras. It lies on the eastern side of the Presidency, between 10° 7′ and 10° 44′ N. and 78° 25′ and 79° 12′ E., and is bounded on the north and west by Trichinopoly District, the Collector of which is *ex-officio* Political

Agent for the State, on the south by Madura, and on the east by Tanjore. It comprises an area of 1,100 square miles, and measures 50 miles from east to west and 40 miles from north to south. It is called after its chief town, the name meaning 'new fort.' The State was formerly known as the Tondimān's country, from the family name of the ruling chief.

Physical aspects.

Pudukkottai resembles in its physical aspects the upland parts of the east coast of the Presidency, and consists for the most part of an undulating plain of barren or sparsely-cultivated land interspersed with small but picturesque rocky hills, some of which are crowned by ancient forts and temples. These hills are most numerous in the south-west portion, where the country is extremely wild and rugged, and here also are the thickest forests. In these are found antelope, spotted deer, wild hog, and some wild cattle, which appear to have originally been village cattle of the ordinary type but are now larger and stronger than the usual plough bullocks. Four small rivers drain the country from west to east.

The climate resembles that of the surrounding Districts and is fairly healthy. Temperatures have not been officially recorded; but Pudukkottai is probably cooler than Trichinopoly in the hot season, as it is more open and nearer the sea. Malaria is rare. Guinea-worm used to be very common, but is now less prevalent. The annual rainfall averages 35 inches.

During the last quarter of a century there have been three cyclones, which occurred in 1884, 1890, and 1893, all during the north-east monsoon. In the first two the rainfall amounted to about 7½ inches, and in the last it was from 12 to 27 inches in different parts of the State, but no serious damage occurred.

History.

In early times the northern part of the present Pudukkottai State belonged to the CHOLA kings, whose capital was at Uraiyūr near Trichinopoly, and the southern part to the PĀNDYA kings of MADURA. About the middle of the sixteenth century Madura passed to the Naik dynasty, and its kings acquired the whole of the territory which makes up the present State, ruling it through a *poligār* or feudatory chief. In the seventeenth century the country came into the possession of the Setupati of RĀMNĀD, who had been a vassal of the Naiks but had thrown off his allegiance. It was temporarily recovered about 1664 by Chokkanātha, the Naik ruler of Trichinopoly, but soon afterwards came again into the possession of Rāmnād; and about 1680 the Setupati, Raghunātha Kilavan, appointed Raghunātha Tondimān as chief of the district of Pudukkottai. This latter is said to have been the brother of a girl of the Kallan caste whom the Rāmnād chief had married. From him the present Rājās trace their descent.

The relations of the English with the State began during the Carnatic wars of the eighteenth century. During the siege of Trichinopoly by the French in 1752 and 1753 the Tondimān of the time did good service to the Company's cause by sending them provisions, although his own country was on at least one occasion ravaged as a consequence of his fidelity to the English. In 1756 he sent some of his troops to assist Muhammad Yūsuf, the Company's sepoy commandant, in settling the Madura and Tinnevelly countries. Subsequently, he was of much service in the wars with Haidar Ali, and in the operations against the rebellious *poligārs* of Sivaganga and Pānjalamkurichi in Madura and Tinnevelly Districts respectively, capturing the latter and handing him over to the English. In 1803 he solicited, as a reward for his services, the favourable consideration of his claim to the fort and district of Kīlanelli, near Arantāngi in the south of Tanjore. He based his claim on a grant made by Pratāp Singh, Rājā of Tanjore, and on engagements subsequently entered into by Colonel Braithwaite, Sir Eyre Coote, and Lord Macartney, on the faith of which he had retaken the fort from Haidar Alī. The Madras Government, after a very complimentary review of his services, complied with his request; and the grant was confirmed in 1806 by the Court of Directors, subject to the condition that the district should not be alienated, and that it should revert to the British Government upon satisfactory proof that the inhabitants were subjected to any oppressive system of management. The grant was further made subject to the yearly tribute of an elephant; but this was never insisted upon, and in 1836 was formally remitted. Beyond this grant, there is no treaty or arrangement with the Rājā. A *sanad* permitting adoption in accordance with Hindu law was conferred on him in 1862. At first the political charge of the State was entrusted to the Resident at Tanjore. When this office was abolished in 1841, the duty was transferred to the Collector of Madura. From 1865 to 1874 the Political Agent was the Collector of Tanjore, and from 1874 up to the present time the Collector of Trichinopoly has carried on the duties of the post.

The present Rājā, His Highness Rājā Srī Mārtānda Bhairava Tondimān Bahādur, who was born on November 27, 1875, succeeded his grandfather in 1886 as a minor. He is the grandson of Rājā Rāmachandra Tondimān Bahādur (fifth in descent from Raghunātha) by his eldest daughter, and was adopted by the late Rājā in 1877. During his minority the late Sir A. Seshayya Sāstri, K.C.S.I., was Dīwān Regent. The Rājā, who had been for some years under the private tuition of an English gentleman, was installed on November 27, 1894. He has a privy purse of Rs. 1,24,000 a year, and is entitled to a salute of 11 guns.

No systematic examination of the archaeological remains in the State

has been made. Near Nārtāmalai, in a cluster of low rocky hills 9 miles north-west of Pudukkottai town and to the west of the road from Trichinopoly, are ancient rock-cuttings consisting of caves with pillar supports to the roof and carvings, which are probably of Jain origin. The most interesting antiquities so far discovered consist of coins. Roman *aurei* have been found, and also some curious native copper coins which are believed to be about a hundred years old. The latter are lumps of copper without edgings, but the designs on some of them are well executed. The coins being very small the legends are imperfect, but they are believed to have been struck by Rājā Vijaya Raghunātha (1807–25). Some curious old chain armour has been found near Tirumayam. The inscriptions on some of the temples are believed to be of interest, but have not been deciphered.

Population.

The State contains one town, its capital PUDUKKOTTAI, the inhabitants of which numbered 20,347 in 1901; and 377 villages. The largest of the villages are Tirumayam and Karambakudi, the population of each of which is over 3,500. The population of the State was 316,695 in 1871, 302,127 in 1881 (the decline being due to the great famine of 1876–8), 373,096 in 1891, and 380,440 in 1901. The density in 1901 was 346 persons per square mile, which is considerably less than in the neighbouring Districts of Tanjore and Trichinopoly, but slightly above the density in Madura. In the same year Hindus numbered 353,723, or 93 per cent. of the total; Muhammadans, 12,268, or 3·2 per cent.; and Christians, 14,449, or 3·8 per cent. The most numerous caste among the Hindus is the Valaiyans (52,890), formerly *shikāris* but now largely agriculturists; next come the Kallans (47,462), the Paraiyans (32,550), and the Pallans (27,381), who are chiefly cultivators and farm labourers; and then the Idaiyans (26,479), who are shepherds. As elsewhere in Southern India, the great majority of the people subsist by the land.

The Christian missions working in the State are the Roman Catholic (Jesuit and Goanese) and the Protestant (Leipzig Lutheran, and Wesleyan). Avūr, a village 12 miles to the south of Trichinopoly, is the centre of the Catholic missions. Of the Christians in the State in 1901, 14,406 were natives, and of these 14,051 were Roman Catholics, 233 Lutherans, and 17 Methodists.

Vital statistics are registered by the village officers, as in British territory. The recorded birth- and death-rates in 1903–4 were 9·28 and 8·75 respectively per 1,000 of the population. These figures show that registration is by no means complete, and steps are being taken to improve matters. Regulation I of 1903 has made registration compulsory in Pudukkottai town, and Regulation II of the same year gives the Darbār power to make it compulsory in rural tracts also.

Agriculture.

The general agricultural conditions of the State, the soils and seasons and the methods of cultivation, resemble those in the adjoining areas in Trichinopoly and Madura. Out of the total area of 1,100 square miles or 704,000 acres, 271,879 acres are held on the usual *ryotwāri* or *inām* (favourable rate) tenures; 157,417 acres are occupied by *jāgīrs* (estates), or relate to *ināms* the tenure of which has been inquired into but in respect of which title-deeds have not yet been issued; 50,070 acres represent unoccupied lands fit for cultivation; and the rest is waste, such as hills, forest, village-sites, &c., which is not fit for cultivation. Among the lands held on *inām* and other favourable tenures is the Manovarti *jāgīr*, which is held by the Rājā himself. This class of land also includes many villages and minor *ināms* granted at lenient rates of assessment by former Rājās to Brāhmans and the old militia. An inquiry into the terms on which these are held has recently been conducted and is now practically complete. Of the area occupied on the *ryotwāri* or 'minor' *inām* tenures, all but 118 acres pays money rents. The remainder is held on what is called the *amāni* system, under which the Darbār takes as the land revenue one-half of the net produce on 'wet' lands and one-third of that on 'dry' lands, after first deducting the *swatantrams* or fees due to village officers and servants. The reasons which have caused such a large area as 50,070 acres of arable land to remain unoccupied are being investigated.

The principal food-crops are rice, *cambu* (*Pennisetum typhoideum*), *rāgi* (*Eleusine coracana*), *cholam* (*Sorghum vulgare*), and *varagu* (*Paspalum scrobiculatum*). Other important crops are horse-gram, ground-nuts (*Arachis hypogaea*), and black gram. The proportion of the cultivated area to the land available for cultivation has gradually increased during the past eight years from 66 to 84 per cent. The extent of 'wet' (irrigated) land under occupation in 1903–4 was 108,000 acres, and that of 'dry' (unirrigated) land, 170,500 acres. The irrigation sources of the State are 4 rivers, 62 dams, 7,356 artificial reservoirs, 190 channels, 3,927 jungle streams, and 18,452 wells. Of these, the reservoirs are the most important. The country is dotted with them and some are of considerable size.

The forests contain only small timber. No law regarding forests has been enacted, but sixty blocks of jungle have been marked out and 'reserved.' They cover about one-seventh of the area of the State, and some are reserved for the Rājā to shoot over. Wild cattle are occasionally caught in them and broken in and used as draught animals, as they are remarkable for their strength and endurance. Their capture has lately, however, been prohibited. Several plantations have been made near the streams and rivers; and these contain 245,000 casuarina trees, the wood of which makes excellent fuel. The principal sources of forest

revenue are the sale of fuel and minor produce such as gums, tanning barks, &c., the lease of the right to collect leaves for manure, tanning bark, *Nux vomica*, and red ochre, seigniorage fees on granite and laterite removed, licence fees for stone-quarrying, stone-masons' licences, and a tax on brick-moulds. The total forest revenue in 1903-4 amounted to Rs. 35,000.

Minerals are few. Iron ore is found in places, but is not mined. Red ochre is procurable in abundance and is extracted in large quantities. Granite and laterite are used for building. The laterite is a very hard variety, and the old fort of Kīlvellikkottai is built entirely of it.

Trade and communications.

There are no large industries in the State. Silk fabrics are made at Pudukkottai town, the number of silk-weavers' houses being about 200. Cotton stuffs are woven there and at Karambakudi, and black woollen blankets at Sellukudi. Rush mats and also bell-metal vessels are made in and about Karambakudi. These are much in demand both within and outside the State. Bangles are made at Vaittūr. Perfumes are manufactured at Pudukkottai and exported to some extent, being much appreciated among Hindus.

The other chief articles of export are ground-nuts, *Nux vomica* seeds, *āvāram* bark used for tanning leather, and acacia bark employed in distilleries. The chief imports are salt, rice, European piece-goods, and tobacco. The Chettis conduct the greater part of the trade, and there are also a considerable number of Labbais, an enterprising body of mixed Musalmān descent.

The State is well provided with roads, which are kept in good condition. Pudukkottai town is connected with Trichinopoly by two routes, one running direct through Kīranūr and the other passing through Iluppūr and Virālimalai on the Madura trunk road. It is also connected by road with Tanjore, Būdalūr, Gandarvakottai, Pudukkottai, and Arantāngi in Tanjore District, and with Melūr in Madura. There are in addition several smaller lines within the State. The total length of all the roads is 272 miles, and the outlay on them in 1903-4 was Rs. 45,000. Light spring carts drawn by ponies (known as *jatkas*) ply from Tanjore and Trichinopoly to Pudukkottai, the distances being 36 and 33 miles respectively. There is no railway in the State; but the Darbār has been asked whether it is prepared to finance that portion of a line from Trichinopoly to Pudukkottai town which would run through the territory of the Rājā, and another proposal contemplates the construction of a line from Madura District, through this State, to Tanjore. The chief town and seven other places are connected with Trichinopoly by telegraph. There are 28 post offices. Both the post and telegraph offices are under the management of the Government of India Postal and Telegraph departments.

The State suffered severely in the famine of 1876-8, when relief works were opened and gratuitous relief was distributed. The country is entirely dependent upon timely local rainfall, but actual famines are of rare occurrence. In 1894-5, owing to the failure of rain in both monsoons, distress was felt in the northern part. The Rājā visited the affected tracts, and ordered the suspension of the collection of the land revenue and the opening of relief works.

Famine.

The administration of the State is in the hands of a council, consisting of the Rājā, the Dīwān (formerly called the Sirkele), and a Councillor. Orders are passed and correspondence carried on in the name of the Dīwān-in-Council. The State is guided in all important matters by the advice and counsel of the British Government, represented by the Political Agent, the Collector of Trichinopoly. Since 1902, an assembly of representatives has been constituted on the lines of the Mysore Assembly. It is composed of 30 persons, chosen by the State as representative of the various classes of the community, nominations being made by the heads of departments and by public institutions. The assembly meets once a year. The results of the preceding year's administration and the budget for the ensuing year are placed before it, and its members are allowed the privilege of interpellation on all matters connected with the administration.

Administration.

The immediate control of the revenue and magisterial departments is in the hands of the Dīwān Peshkār, who is also the chief magistrate and is invested with first-class magisterial powers. The salt, excise, and forest departments are under the control of the Superintendent of salt, *ābkāri*, and separate revenue. The Superintendent of police in Trichinopoly District is *ex-officio* Superintendent of the force within the State. The country is divided for administrative purposes into three *tāluks*: Kolattūr, the head-quarters of which is at Kīranūr, and Alangudi and Tirumayam, the head-quarters of which are the places after which they are named. In each of these is stationed a *tahsīldār*, who is responsible for land revenue; an inspector of salt, *ābkāri*, and separate revenue; a sub-magistrate, and an inspector of police.

Legislative measures are enacted by the Dīwān-in-Council, and, as in the case of the other Native States subject to the Madras Government, are forwarded to that Government for approval before being passed into law.

Civil justice is administered by the Chief Court at Pudukkottai, which consists of three judges and a registrar who has Small Cause jurisdiction. There are also ten Small Cause Courts for rural areas, sub-registrars of assurances being invested with the powers of Small Cause judges to about the same extent as Village Munsifs in British territory. All appeals are disposed of by the Chief Court.

The criminal courts are the Sessions court, presided over by the judges of the Chief Court sitting singly by turns; and the courts of the chief magistrate, who has first-class powers; the special magistrate, Pudukkottai, with first- or second-class powers; the town second-class magistrate; three *tāluk* magistrates and three stationary magistrates with second-class powers; and six sub-registrars invested with third-class powers. All appeals lie to the Chief Court. Serious offences, such as dacoity or robbery, are rare, the greater part of the crime consisting of house-breaking and thefts. Sentences of rigorous imprisonment for life and forfeiture of property, the former of which, under the law of the State, takes the place of capital punishment, are subject to the confirmation of the Rājā. The criminal courts have no jurisdiction over European British subjects, and any offenders of this class are handed over for trial to the Political Agent, who is Justice of the Peace for the State. The receipts under Law and Justice amounted in 1903–4 to Rs. 61,000, and the charges to Rs. 40,000.

The Regulation of the State dealing with the registration of assurances differs but little from the Indian Registration Act, the chief point of divergence being that under the former registration is compulsory in the case of several kinds of documents regarding which it is optional under the latter. There are twelve registry offices, including that of the head of the department, who is called the Registrar of Assurances. The cost of the department is Rs. 18,000.

The total revenue of the State in 1903–4 amounted to Rs. 11,28,000, and the total expenditure to Rs. 10,21,000. The chief items are shown in the following table :—

Receipts.		Expenditure.	
	Rs.		Rs.
Land revenue	7,97,000	Palace	2,49,000
Salt	38,000	Administration	1,85,000
Excise on spirits and drugs	84,000	Religious and charitable endowments	1,21,000
Forests	35,000	Public works	2,40,000
Assessed taxes	7,400		
Registration	29,000		

The ordinary currency of the State is the British Indian coinage, but a small round copper coin, worth one-twentieth of an anna and called *amman-kāsu*, is also current. This is minted for the State, and bears on one side the word *vijaya* ('victory') in Telugu, and on the other a representation of the Rājā's tutelary goddess Bruhadāmbā. This deity is the consort of the god Gokarnaswāmi, and a temple to them stands in Tirugokarnam, a suburb of Pudukkottai town. To this the Rājās are wont to go on occasions of public worship.

The land revenue consists of the assessment on land held on the *ryotwāri* tenure, quit-rents on certain classes of *ināms*, a small tax on

jāgīrs, and the value of the State's share of the produce of land held under the *amāni* system above referred to. The rates of assessment on 'wet' land on *ryotwāri* tenure vary from Rs. 4 to Rs. 10 per acre, and those on 'dry' land from 6½ annas to Rs. 1-8. There are also special rates for 'dry' land on which rice is grown.

The history of the land revenue possesses some interest. In 1878, when Mr. (afterwards Sir) A. Seshayya Sāstri became Dīwān, about 16,000 acres were held on a tenure under which the cultivator and the State shared the produce. The Dīwān substituted for the State's share a money assessment based upon the average out-turn for the five years from 1871 to 1875 and the average selling price of grain during those years. No remissions of the assessment so arrived at were to be allowed on account of bad seasons. The village accountants' fees (formerly payable in kind) were commuted into a cess of 6 pies per rupee of assessment.

It had long been customary to give a paper to each ryot every year, which specified the fields which happened to be in his possession and were to be cultivated by him in that year. The ryots were not, however, considered to possess any occupancy rights in their land or any power of transfer. Their status has now been changed from that of tenants-at-will into that of proprietors; and owners of land are now able to mortgage, transfer, or sell it, proceedings which would have been void at law under the previous system. These reforms, however, quickly showed very clearly the necessity for a regular survey and settlement. The cadastral survey of the State is now in progress. On its completion, the settlement will be taken in hand.

Revenue used to be derived from the earth-salt manufactured from saline soils as a State monopoly; but in 1887 the Madras Government arranged with the Darbār for the suppression of this manufacture, and entered into a convention (still in force) by which it agreed to pay the Darbār Rs. 38,000 annually as compensation, imposing at the same time the obligation of maintaining a preventive staff costing about Rs. 10,000.

The system of collection of the excise revenue is almost the same as that in the Madras Presidency. A State distillery is maintained for the manufacture of country spirit, and rents are collected on licences for retail shops and on palm-trees permitted to be tapped for their juice. Still-head duty is collected on the liquor issued from the distillery at rates nearly equal to those obtaining in the Madras Presidency. There are 108 arrack (spirit) and 233 toddy (fermented palm-juice) shops, one foreign liquor shop, and also one shop in the chief town for the sale of opium and *gānja*. The cost of the excise department is Rs. 8,000.

Under the head of assessed taxes among the sources of revenue given

above is included the *mohtarfa*, which consists of a tax on houses and trades. Terraced houses are assessed at R. 1 per annum, tiled houses at 8 annas, thatched houses at 4 annas, and huts at 6 pies. Shops and bazars are charged at the rate of Rs. 3, Rs. 2, R. 1, and 8 annas, according to their importance. Silk looms pay R. 1 each, other looms 12 annas, and oil-mills Rs. 2 per annum.

Tolls are levied in Pudukkottai town and at eight other gates. The proceeds amount to Rs. 30,000. A revenue of about Rs. 20,000 is derived from market fees, cart-stand fees, and rent of public buildings. There is no stamp law in the State. Court fees are levied in cash.

The Public Works department is under the control of an Engineer, aided by two Assistant Engineers and a subordinate staff. The care of the State buildings and the maintenance and construction of irrigation works form the principal part of its business.

The military force now maintained consists of 22 officers, 90 privates (of whom 6 are gunners), and 16 troopers, who are known as the Rājā's body-guard and are under the immediate control of an officer called the commandant.

The strength of the police force is one chief inspector, 5 inspectors, 28 head constables, and 229 constables. There are 23 police stations. As has already been mentioned, the force is in charge of the District Superintendent of Trichinopoly. The annual cost of the department is Rs. 35,000.

The seven prisons include the Central jail at Pudukkottai town and six subsidiary jails. The convicts in the former are employed in making wicker baskets, ropes, cloths, bell-metal vessels, and net bags, in gardening, and in pressing gingelly oil. They are also employed in the conservancy of the town. The value of the labour done both within and without the jail by them in 1903–4 was Rs. 2,200. There were 50 convicts in jail at the end of 1903–4 (8 of whom were life-convicts) and 15 under-trial prisoners, besides 5 civil prisoners, all of whom were lunatics. The cellular system is not in force, but arrangements have been made to introduce it. The cost of the department is about Rs. 7,000.

Education.

According to the Census of 1901 Pudukkottai, if it had been a British District, would have taken the fifth place among the twenty-two Districts of the Madras Presidency as regards the education of its male population, but would have ranked last as regards the education of its girls, the actual percentages of the literate of each sex to the total population of that sex being 15·6 and 0·4 respectively. At the end of 1903–4, there were 35 State, 146 aided, and 96 unaided educational institutions. Of these, 255 were primary, 13 secondary, and 6 special schools. Altogether, 8,397 boys and 846 girls were under instruction. Pudukkottai town possesses a second-grade college, teaching up to the F.A. examination,

which at the close of 1903-4 contained 36 students in the college department. Provision has been made in the institution for the religious instruction of Hindu boys, and physical development also receives special attention. A school called the Vāni Vilāsa Veda Sāstra Pāthsāla teaches Sanskrit on Oriental lines. The staff consists of eight *pandits*: three for the Vedas, one each for Tarka (logic) and Vedānta (metaphysics), one for Mīmāmsa (a school of philosophy), and two for Kāvya (poetry). The library contains over a thousand volumes on paper and *cadjan* (palm-leaves). About half the students get daily allowances in kind from the assignments made to religious and charitable institutions. The town State girls' school teaches up to the lower secondary standard. There is an industrial school at Pudukkottai under the control of the Engineer. The State also endeavours to spread general elementary education. Girls of all castes and Muhammadans and Panchama boys are taught free. In the lower classes non-Brāhman Hindus form the majority of the pupils. Of the girls, the most numerous are those of the Muhammadan community. In 1903-4 the receipts from fees, &c., amounted to Rs. 14,000 and the gross expenditure was Rs. 40,000, the net cost to the State being Rs. 26,000. Of the total outlay, Rs. 15,000 was devoted to primary education. The control of the Educational department is vested in the principal of the College, Mr. Rādhākrishna Ayyar, a gentleman known even in Europe for his works on arithmetic.

Medical.

Pudukkottai town possesses a well-equipped hospital, with 28 beds for males and 4 for females, and also a dispensary for women and children, while 7 other dispensaries have been opened in the rural parts. The dispensary for women and children is in charge of a lady apothecary, and the other institutions are under the control of the chief medical and sanitary officer. In 1903-4, 440 in-patients and 85,700 out-patients were treated, and the number of operations performed was 1,800.

The vaccination staff, consisting of one inspector and ten vaccinators, works under the supervision of the chief medical and sanitary officer. About 26 per 1,000 of the population were successfully vaccinated in 1903-4. Vaccination is compulsory only in Pudukkottai town.

The conservancy of this town is controlled by a sanitary board, with a full-time secretary as its chief executive officer. Conservancy in other parts is attended to by the revenue staff, acting upon the advice and suggestions of the chief medical and sanitary officer. The total annual cost of the Medical department, including vaccination, is about Rs. 26,000.

[For further particulars of the State see its Annual Administration Reports and the *Trichinopoly District Manual* (1878).]

Pudukkottai Town.—Capital of the State of Pudukkottai, Madras,

situated in 10° 23′ N. and 78° 49′ E., 33 miles by road from Trichinopoly. Population in 1901, 20,347, compared with 16,885 in 1891 and 15,384 in 1881. Hindus number 18,459; Musalmāns, 1,344; and Christians, 544. It is an unusually clean, airy, and well-built town, possessing many fine public buildings. At the suggestion of Sir W. Blackburne, the Political Agent, Rājā Vijaya Raghunātha Rājā Bahādur, who died in 1825, pulled down the whole of the old town, which was built with narrow and tortuous lanes, and rebuilt it in regular streets, a large number of the houses being tiled. The place was further improved in the time of Sir A. Seshayya Sāstri, K.C.S.I., who was Dīwān-Regent for some years while the present Rājā was a minor. The fine public buildings outside the town were erected by him. The chief of these are the new palace, the public offices, the hospital, the jail, the college, the Residency, and the summer villa. The old palace, which contains the Rājā's Darbār room, is in the heart of the town. This building is not used except on state occasions and is somewhat out of repair. Two large drinking-water tanks in the town (Pallavankulam and Pudukulam) and several others were also improved at considerable cost, but with the most beneficial results, during Sir A. Seshayya Sāstri's administration. Particulars of the educational and medical institutions in the town will be found in the article on the State.

Pukhrāyān.—Another name of the BHOGNĪPUR TAHSĪL, Cawnpore District, United Provinces.

Pulgaon.—Town in the District and *tahsīl* of Wardhā, Central Provinces, situated in 20° 44′ N. and 78° 19′ E., on the Great Indian Peninsula Railway, 19 miles from Wardhā town and 452 from Bombay. Population (1901), 4,710. Pulgaon is quite a new town, and originally consisted of a collection of huts of the workmen who built the railway bridge over the Wardhā river close by, the name meaning 'bridge village.' It was constituted a municipality in 1901. The receipts and expenditure in 1903–4 were Rs. 11,000 and Rs. 7,000 respectively. The income is derived principally from road tolls and rents of land. Pulgaon is an important centre of the cotton trade, receiving the produce of nearly the whole of the Arvī *tahsīl*. The Pulgaon Spinning Mills were opened in 1892 with a capital of 5 lakhs, and have nearly 15,000 spindles. The out-turn of yarn in 1904 was 21,300 cwt., valued at more than 10 lakhs. A weaving department containing 165 looms was added in 1902 at an additional cost of 3¼ lakhs. There are also 5 cotton-ginning factories and 3 pressing factories, with a total capital of 4½ lakhs, and containing 146 gins and 3 presses. Pulgaon has a primary school and a dispensary.

Pulicat Town.—Town in the Ponneri *tāluk* of Chingleput District, Madras, situated in 13° 25′ N. and 80° 19′ E., on the southern extremity of an island which separates the sea from the PULICAT LAKE, 25 miles

north of Madras city. Population (1901), 5,448. Pulicat was the site of the earliest settlement of the Dutch on the mainland of India. In 1609 they built a fort here and called it Geldria, and in 1619 the English obtained from the chiefs a permission to share in the pepper trade of Java. Later, it was the chief Dutch settlement on the Coromandel coast. It was taken by the English in 1781; restored in 1785 to Holland under the treaty of 1784, and again surrendered by the Dutch in 1795. In 1818 Pulicat was handed back to Holland by the East India Company under the Convention of the Allied Powers in 1814; in 1825 it was finally ceded to Great Britain by the treaty of March, 1824. The only relics of Dutch authority now remaining are the curious and elaborate tombs in their old cemetery, which are maintained at Government expense. The town was formerly a centre of trade with Penang and the Straits, but this has now ceased. It was also once a sanitarium much frequented by residents of Madras, but the prevalence of malarial fever put it out of favour. The place is now comparatively deserted, and is inhabited chiefly by the Muhammadan trading community of Labbais. The only trade now carried on is managed by these people. It consists chiefly of the export of woven cloth, dried fish, and prawns. The Hindus of the town are for the most part very poor and earn their livelihood by fishing and daily labour. The old Roman Catholic church here attracts large crowds from Madras and elsewhere to one of its annual feasts.

Pulicat Lake.—A shallow salt-water lagoon, about 37 miles in length and from 3 to 11 in breadth, lying along the shore of the Bay of Bengal in Nellore District, Madras, between 13° 24′ and 13° 47′ N. and 80° 2′ and 80° 16′ E. It is separated from the sea by the long, narrow, sandy island of SRĪHARIKOTA, and by the spit of sand on which stands the town of PULICAT, after which it is named. Like the Chilka Lake, it was probably formed by the antagonism between the sand-bearing currents of the Bay and the silt-laden streams which flow into it. There is shoal-water for some distance to seaward, and this shoal probably grew gradually into a long sand-bar which checked the flow of the land streams. The lake contains several islands (on which much lime is made from the shells found upon them), and is connected with the sea by openings north of Pulicat and elsewhere, and so is influenced by the tide. It is seldom more than 6 feet deep in the dry season. About thirty years ago a dam was built across the middle of it from Srīharikota through the island of Venād to the mainland, in order to reduce its extent and thus check the smuggling of the natural salt which forms along its shores. This has turned the northern half into a sandy waste. The BUCKINGHAM CANAL enters the lake south of Pulicat and utilizes it for about 6 miles.

Pulivendla.—North-western *tāluk* of Cuddapah District, Madras,

lying between 14° 10′ and 14° 44′ N. and 77° 57′ and 78° 38′ E., with an area of 701 square miles. It is bounded on the south by the Pālkonda Hills and on the north by the Erramalas, while to the east runs the Pāpaghni river. The population in 1901 was 103,396, compared with 105,842 in 1891. It contains one town, VEMPALLE (population, 10,793), and 101 villages, including Pulivendla (1,894), the head-quarters. The demand for land revenue and cesses in 1903–4 amounted to Rs. 2,38,000. The greater part is unirrigated, there being no river of any size in it. An estimate for Rs. 19,000 has recently been sanctioned for the construction of a tank, commanding 750 acres in Vemula. Irrigation from wells is, however, general; and in favoured situations, such as the eastern portion, where the subsoil water lies at no great depth, the ground so tilled becomes most productive. The chief, and indeed almost the sole, industry is agriculture. Cotton and *cholam* divide the greater part of the land between them.

Pullampet.—South-eastern *tāluk* of Cuddapah District, Madras, lying between 13° 44′ and 14° 25′ N. and 78° 59′ and 79° 29′ E., with an area of 979 square miles. The Velikondas, which are a section of the Eastern Ghāts, and the Pālkonda (or Seshāchalam) Hills bound it on three sides. The population in 1901 was 143,521, compared with 149,109 in 1891. It contains one town, RĀZAMPETA (population, 15,287), the head-quarters; and 127 villages. The demand for land revenue and cesses in 1903–4 amounted to Rs. 2,62,000. Unlike the rest of Cuddapah, Pullampet benefits considerably from the north-east monsoon, and its annual rainfall (35 inches) is the heaviest in the District. More than one-third of the *tāluk* consists of 'reserved' forests, most of which lie on the Pālkonda Hills. Cultivation is principally carried on in two valleys. One of these, the Cheyyeru valley, which formerly constituted the petty chiefship of Chitvel, is most fertile and productive.

Pulney.—*Tāluk* and town in Madura District, Madras. *See* PALNI.

Punādra.—Petty State in MAHĪ KĀNTHA, Bombay.

Punaka.—Winter capital of the State of Bhutān, situated in 27° 35′ N. and 89° 51′ E., on the left bank of the Būgni river, 96 miles east-north-east of Darjeeling. Punaka is a place of great natural strength.

Punalūr.—Head-quarters of the Pattanapuram *tāluk* in Travancore State, Madras, situated in 9° 1′ N. and 76° 59′ E. Population (1901), 2,826. It is a station on the Tinnevelly-Quilon Railway, and the neighbouring forests yield excellent fibre which is made into paper.

Pūnamallee.—Town in Chingleput District, Madras. *See* POONAMALLEE.

Pūnch.—Principal place in the *jāgīr* of the same name, Kashmīr State, situated in 33° 45′ N. and 74° 9′ E., at an elevation of 3,300 feet above sea-level. It lies on sloping ground above the right bank

of the Tāwi. Population (1901), 8,215. The town is oblong in shape, and is unwalled, with narrow streets. There are about 750 houses, generally single-storeyed with flat mud roofs. The fort, in which the Rājā resides, stands on a mound about 300 yards from the south-west corner of the town. Pūnch is well supplied with water brought by channels from the neighbouring streams. The climate is hot in the summer, and the rice-fields in the neighbourhood are probably one of the causes of the prevalence of fever. During the five hot months it is the custom to migrate to the summer camping-ground in the hills known as Dhoks. There is a flourishing market and a large trade is done in grain and *ghī*, in spite of the fact that there are no roads in the *jāgīr* fit for cart traffic. A good 6-ft. road for pack transport has nearly been completed from the town to Uri on the Jhelum, and there is a project for a road to Rāwalpindi, with a suspension bridge over the Jhelum at Lachman Pātan. Other important tracks lead to Gulmarg and Tosh Maidān in Kashmīr, and to Jhelum. The ancient name was Parnotsa, and the place is often mentioned in the chronicles. The Kashmīris always speak of Pūnch as Prunts.

Pundra.—Ancient kingdom in Eastern Bengal, which, according to Sir A. Cunningham, has given its name to Pābna District. It was bounded on the north-east by Prāgjyotisha or Kāmarūpa, on the west by the Mahānandā river, on the east by the Karatoyā, and on the south by the kingdom of Banga; and it comprised parts of the modern Districts of Rangpur, Dinājpur, Purnea, Mālda, Rājshāhi, Bogra, and Pābna. The capital may have been at MAHĀSTHĀN or PANDUA (1). This kingdom was in existence in the third century B.C., and Asoka's brother found shelter there in the guise of a Buddhist monk. It was still flourishing in the seventh century, when Hiuen Tsiang travelled in India; and it is mentioned as a powerful kingdom in the eighth century, and as a place of pilgrimage in the eleventh. King Ballāl Sen gave it the name of Bārendra, and it is the traditional home of the Pod caste.

Pūndri.—Town in the Kaithal *tahsīl* of Karnāl District, Punjab, situated in 29° 46′ N. and 76° 34′ E., on the bank of a great tank called the Pundrak tank. Population (1901), 5,834. It was formerly one of the strongholds of the Pūndirs, a Rājput tribe who held Thānesar and the Nardak. It has a vernacular middle school.

Punganūru Tahsīl and Zamīndāri.—Estate situated above the Ghāts in the north-west corner of North Arcot District, Madras, lying between 13° 10′ and 13° 40′ N. and 78° 22′ and 79° E., and adjoining Mysore. It extends over 648 square miles, and forms a *tahsīl* in charge of a deputy-*tahsīldār* and sub-magistrate. The population in 1901 was 96,852, compared with 92,023 in 1891. It contains 564 villages and one town, PUNGANŪRU (population, 6,353), the head-quarters and residence of the *zamīndār*. The *peshkash* and land cess

in 1903-4 amounted to Rs. 81,000. The estate runs up to the Mysore plateau, and its temperature is thus considerably lower than that of the rest of the District. Large game is abundant, and twenty-five years ago elephants were found. An excellent breed of cattle is maintained, and sugar-cane is largely cultivated. The family of the present *zamīndār* is said to have settled in the country as far back as the thirteenth century, and its members have a long local history. During the Mysore Wars the *zamīndār* assisted Lord Cornwallis with transport and provisions, and he and his successors managed the estate for many years as lessees for the British. In 1832 the owner died without issue and a series of disputes arose. The estate eventually passed to his brother. A permanent *sanad* (grant) was bestowed by Government in 1861. The *zamīndār* belongs to the sect of Lingāyats.

Punganūru Town.—Head-quarters of the *tahsīl* and *zamīndāri* of the same name in North Arcot District, Madras, situated in 13° 22′ N. and 78° 35′ E., on a plateau 2,000 feet above sea-level. Population (1901), 6,353. The town is prosperous, and owing to its elevation its temperature is much less torrid than that of the lower parts of the District. A large cattle fair is held in April. The *zamīndār* has set aside a portion of his palace for the use of European travellers, and the building possesses a museum containing a curious collection of life-size models representing natives of various castes in their usual costumes. A mile from the town are the ruins of a large Roman Catholic chapel bearing the date 1780.

Punjab (*Panjāb*).—In its strict etymological sense the Punjab, or 'land of the five rivers,' is the country enclosed and watered by the Jhelum, Chenāb, Rāvi, Beās, and Sutlej; but the Province as now constituted includes also the table-land of Sirhind between the Sutlej and the Jumna to the south of the former river, the Sind-Sāgar Doāb or wedge of country between the Jhelum and the Indus, and west of the latter river the two tracts which form Dera Ghāzi Khān and part of Miānwāli District. The Province lies between 27° 39′ and 34° 2′ N. and 69° 23′ and 79° 2′ E., and with its Native States has an area of 133,741 square miles, being larger by one-tenth than the British Isles, and comprising a tenth of the area of the Indian Empire. Of the total area, 36,532 square miles belong to Native States under the political control of the Punjab Government, and the rest is British territory. The population in 1901 was 24,754,737 (of whom 4,424,398 were in the Native States), or 8·4 per cent. of the whole population of the Indian Empire.

On the north the Himālayan ranges divide the Punjab from Kashmīr and the North-West Frontier Province. On the west the Indus forms its main boundary with the latter Province, except that the Punjab

includes the strip of riverain which forms the Isa Khel *tahsīl* of Miānwāli District, west of that river. Its south-western extremity also lies west of the Indus and forms the large District of Dera Ghāzi Khān, thereby extending its frontier to the Sulaimān range, which divides it from Baluchistān. On the extreme south-west the Province adjoins Sind, and the Rājputāna desert forms its southern border. On the east, the Jumna and its tributary the Tons divide it from the United Provinces of Agra and Oudh, its frontier north of the sources of the latter river being contiguous with Chinese Tibet.

Physical aspects.

The Province falls into five main physical divisions. Three of these—the Himālayan region, the Himālayan submontane which stretches from the Jumna to the Salt Range, and the arid plateaux of that range—are small in area, but the submontane is the most fertile and wealthiest in the Punjab. The other two are the arid south-western plains, and the western portion of the Indo-Gangetic Plain West which extends as far westward as Lahore. Both these divisions are of vast extent, but infertile towards the south, where they encroach on the plains of Sind and Rājputāna.

The Punjab proper comprises five *doābs*, or tracts lying between two rivers. These received their names from the emperor Akbar, who formed them by combining the first letters of the names of the rivers between which they lie. They are: the Bīst Jullundur, also called the Sāharwāl Doāb, lying between the Beās and the Sutlej; the Bāri, between the old bed of the Beās and the Rāvi; the Rechna (Rachin-āb, or Rachin-ao), between the Rāvi and the Chenāb; the Chinhath, between the Chenāb and the Bihat (another name for the Jhelum), also called the Chaj; and the Sind-Sāgar, between the Indus and the Jhelum or Bihat.

The whole Central Punjab is a vast alluvial plain; but the north-east of the Province is formed of a section of the HIMĀLAYAS, stretching up to and beyond the great central ranges so as to include the Tibetan cantons of Lāhul and Spiti. The SALT RANGE, with the plateaux which lie to the north between it and the Indus, forms its north-western angle, and the SULAIMĀN Range forms the southern half of the western frontier of the Province. These are the only mountain systems of importance; but a few insignificant outliers of the ARĀVALLI system traverse Gurgaon District in the extreme south-east, and terminate in the historic Ridge at Delhi.

All the seven great rivers of the Punjab rise in the Himālayas, and after long courses, sometimes of several hundred miles, amid snow-clad ranges, they debouch on the plains. The slope of the low country is to the south and south-west, and is very gradual, seldom exceeding 2 feet in a mile; and this determines the course of the rivers. In the

process of time each stream has cut for itself a wide valley, which lies well below the level of the plain, and whose banks mark the extreme limits of the course on either side. Within this valley the river meanders in a narrow but ill-defined and ever-shifting channel. In the winter the stream is comparatively small; but as the mountain snows melt at the approach of the hot season, the waters rise and overflow the surrounding country, often to a distance of several miles on either side. At the close of the rainy season the waters recede, leaving wide expanses of fertile loam or less fertile sand.

Of these seven rivers, the INDUS is the greatest. Already a mighty stream when it emerges from the Hazāra hills, it flows almost due south past Attock. Here it enters a deep gorge, terminating at Kālābāgh, where it pierces the Salt Range. Thus far it forms the western boundary; but south of Kālābāgh it enters the Province, and divides the Isa Khel *tahsīl* of Miānwāli from the rest of that District. Farther south again it forms the western boundary until it re-enters Punjab territory near Bhakkar, and divides Dera Ghāzi Khān from Miānwāli and Muzaffargarh Districts and from the State of Bahāwalpur. The JHELUM enters the Punjab east of the Salt Range, flowing south between this and the Pabbi hills, which terminate at Mong Rasūl. Thence the river flows west and then south until it is joined by the Chenāb near Jhang. The CHENĀB rises in the Himālayan canton of Lāhul within the Province, and after traversing the Chamba State and the Jammu province of Kashmīr debouches on the plains east of the Jhelum, into which it falls about 225 miles from the hills. The RĀVI, rising in Chamba, reaches the plain below Dalhousie, and joins the combined waters of the Jhelum and Chenāb 50 miles south of Jhang. The united streams of these three rivers form the Trimāb. The BEĀS, rising on the south of the Rhotang pass on the opposite side of the Central Himālayas to the Rāvi, traverses the Kulū valley southward, and then bends suddenly westward, through the Mandī State and Kāngra District, until it turns the northern flank of the Siwāliks, and enters the plains within a few miles of the Rāvi. Thence its course is more southerly, and it falls into the Sutlej about 70 miles from its debouchure. The SUTLEJ, rising near the source of the Indus in Tibet, enters the Province near the Shipki Pass, traverses Bashahr and other States of the Simla Hills, and pierces the Siwāliks near Rūpar. Thence it runs almost due west to its junction with the Beās near Sobraon, where it takes a more southerly course for 270 miles, and falls into the Trimāb 9 miles north of Uch. Below this confluence the waters of the Jhelum, Chenāb and Rāvi, Sutlej and Beās form the PANJNAD, or 'five rivers,' which fall into the Indus at Mithankot. Lastly, the JUMNA, the only one of the great rivers of the Province which ultimately drains into the Bay of Bengal, rises in Tehrī State

in the United Provinces, and from its junction with the Tons at the eastern extremity of Sirmūr territory forms the boundary between the Punjab and the United Provinces for a distance of over 200 miles.

The Province presents great varieties of scenery, from the snow peaks and glaciers of the Upper Himālayas to the deserts of shifting sand in the Sind-Sāgar Doāb and Bahāwalpur. The scenery of the Himālayas has often been described. In the Salt Range it is picturesque and even grand in places, and in the interior of the range the slopes are everywhere green with box and bog-myrtle. The southern face exhibits a very rugged and broken appearance, but on the north the contours of the hills are for the most part smooth and undulating. Between the Salt Range and the Himālayas the aspect of the country varies greatly, from the deep, shaly, and infertile ravines of Jhelum to the rich uplands of Gūjar Khān. The Siwāliks and the Pabbi hills are much tamer than the Salt Range, and the vegetation which clothes them is coarser and scantier, though the Jaswān Dūn in Hoshiārpur is not lacking in richness and beauty. But the characteristic scenery of the Punjab is that of the plains, and the contrast between their appearance before and after the crops have been cut is most striking. As harvest approaches, the traveller, especially in the irrigated tracts, rides through an endless expanse of waving crops of different shades of colour, out of which the villages seem to rise like islets in an ocean of green. After the harvest all is changed; and the dull brown of the fields is relieved only by the trees, solitary or in groves and avenues, and by the hamlets and village ponds. The lowlands through which the great rivers work their way retain some of their verdure throughout the year, and, especially in the east of the Province, are studded with groves and gardens. But in the plateaux between the rivers, and in the great sandy plains of the south, where cultivation is impossible without the aid of artificial irrigation, the scanty vegetation takes a more sober hue, and the only relief the eye can find from the stretches of bare soil is afforded by stunted and infrequent bushes.

[1] Geologically the Punjab falls into three natural divisions: the plains, the Salt Range, and the Himālayas. The plains consist almost entirely of the Indo-Gangetic alluvium, but contains beds of sedimentary rocks of Peninsular type. These comprise a small area of rocks of a transition age, which form a series of outliers of the Arāvalli rocks at Delhi and to the south and south-east, whence they are known as the Delhi system[2]. They are composed of a lower group of slates and limestones, and an upper and much thicker group

[1] Condensed from a note by Mr. H. H. Hayden, Geological Survey of India.

[2] *Manual of the Geology of India*, p. 69 ('The Delhi System').

of quartzites; the upper beds, known as the Alwar quartzites, are exposed on the Ridge at Delhi. Two small outliers, also referred to the Delhi system, are found near the Chenāb, at Chiniot and Kirāna, within 35 miles of the beds of extra-Peninsular type found in the Salt Range. From the strong contrast they afford in petrological and dynamic conditions, they are almost certainly older than the oldest rocks of that range and in all probability pre-Cambrian.

In the north of the Province the SALT RANGE stretches from the Jhelum valley on the east to the Indus on the west, and crops up again beyond that river. Its geological features are particularly interesting, and the age of the salt which gives its name to the hills is still uncertain. The lowest beds to which a definite period can be assigned are shales, yielding trilobites, *obolus*, and *hyolithes*, and regarded as Lower Cambrian. They are underlain, with apparent conformity, by purple sandstone, which may also be Cambrian. From its apparent position below this sandstone the salt marl has been classed as Lower Cambrian or pre-Cambrian, but it also occurs at various horizons of higher levels. It has no appearance of stratification, but is a soft, structureless mass, showing no signs of sedimentary origin. In it are found immense masses of rock-salt, and bands and strings of gypsum, with disintegrated patches of dolomite. Magnesian sandstone appears to lie conformably on the *obolus* shales, but has yielded only fragmentary fossils. It is, however, probable that this, together with the overlying salt pseudomorph sandstone, belongs to the Cambrian system.

A great break then occurs, representing the Silurian and Devonian and part of the Carboniferous epochs; and the next formation, a boulder-bed, lies unconformably on all the older deposits. It consists of faceted and striated boulders embedded in a fine matrix, giving evidence of a glacial origin; a few fossils are found, including *Conularia*, and the series is regarded as Lower Permian, of the same age as the Tālcher boulder-bed. The Upper Permian is represented by olive and speckled sandstones and lavender clay, containing *Conularia* and other fossils, and the *Productus* beds which yield *Xenaspis* and *Cyclolobus*. Over these are found Lower Triassic beds of limestone, sandstone, and marl, containing ammonites, and termed ceratite beds. The Middle and Upper Trias appear to be wanting, the ceratites being overlain by sandstones, oolites, and shales, in the upper beds of which have been found ammonites and belemnites of Upper Jurassic age. They are followed by pisolitic sandstones, containing at the Chichali pass a rich Lower Cretaceous (neocomian) flora, and overlain unconformably by shales and sandstones with coal seams passing into Nummulitic limestone, the coal and limestone being of Lower Tertiary (eocene) age. Above the limestone is another unconformity,

followed by a great mass of sandstone, with beds of red clay similar to the Nāhan beds of the Himālayas; this in turn is overlain by typical Siwālik sandstones.

The Himālayas fall into three broad divisions: a northern, a central, and a southern. The northern, known as the Tibetan zone, extends through Kanāwār and Spiti into Lāhul, and affords an almost unbroken sequence of sedimentary deposits ranging from Cambrian to Cretaceous. The oldest beds are slates and quartzites, for the most part unfossiliferous, but containing in the higher beds trilobites and other fossils of Middle and Upper Cambrian age. These are overlain, unconformably, by conglomerate, followed by a great mass of red quartzite, believed to be of Lower Silurian age, and passing up into limestone and marl with Silurian fossils (trilobites, corals, &c.). The limestone gradually gives place to a white quartzite, which is one of the most characteristic horizons of the Himālayas. Except in Kanāwār and Upper Spiti the quartzite is usually overlain by beds of Upper Permian age, but near Lis in Kanāwār a great thickness of limestone and shale is found; the limestone contains a rich fauna of Lower Carboniferous age, and the shales have yielded Upper Carboniferous brachiopods and bryozoa. Next in order is a conglomerate of variable thickness, overlain by calcareous sandstone and a bed of dark micaceous shale representing the Permian. The uppermost bed, known as the *Productus* shales, is found throughout the Himālayas, and contains Upper Permian brachiopods and ammonites. The latter are especially interesting, as they are closely allied to species (*Xenaspis carbonaria* and *Cyclolobus oldhami*) from the upper *Productus* limestone of the Salt Range. Above these shales is a thin shaly band with ammonites, known as the Otoceras beds, which passes into a vast thickness of limestone, intercalated by shale, and representing the whole of the Trias, and the Lower and probably Middle Jurassic. Fossils are numerous throughout, and representatives of all subdivisions in the Alpine Trias have been recognized. The limestones are succeeded by the well-known Spiti shales, famous for their ammonites. They are of Upper Jurassic age, and are overlain by the Giumal sandstone and Chikkim limestone and shales representing the Cretaceous system.

A broad zone of metamorphic, crystalline, and unfossiliferous rocks forms the axis of the Himālayas. The crystallines are partly intrusive, and partly the result of contact with the metamorphism of the Cambrian slates in the northern zone. South of the metamorphics, however, the unfossiliferous sedimentary rocks extend from Chamba through Kāngra and the Simla Hill States to Garhwāl. They consist chiefly of limestones, slates, quartzites, and conglomerates of unknown age, and have been divided into three systems. The Jaunsār system, regarded as the oldest, consists of grey slates overlain by blue lime-

stones, followed by red slates and quartzites exposed near Chakrāta. In Jaunsār-Bāwar and the east of Sirmūr the quartzites are overlain by a considerable thickness of trap and volcanic ash. Above the Jaunsār system a great development of limestones forms most of the higher parts of the mountains running north from Deoban, and is known as the Deoban system. It is also seen in Sirmūr, and in the Shali peak north of Simla. Above this follows the carbonaceous system, covering the greatest part of the Lower Himālayas. At the base is a great thickness of grey slate, with beds of grit and quartzite, resembling the Cambrian slates of the Tibetan zone. The slates, which are known as the infra-Blaini or Simla slates, are overlain by a characteristic series of conglomerates or boulder-slate and pink dolomitic limestone, which has been recognized in many parts of the Simla Hill States, while similar beds occur near Mussoorie on the east and in Chamba to the north-west. These are overlain by carbonaceous shale, followed by a quartzite bed of variable thickness, the two being included in the infra-Krol group, while the overlying Krol beds consist of limestone with subordinate bands of carbonaceous shale, the limestone attaining a great thickness in the Krol mountain near Solon. The age of the Jaunsār and Deoban systems is quite unknown; the carbonaceous system has been referred in part to the Permian and in part (the Krol limestone) to the Trias, but this classification is not final.

The sub-Himālayan zone consists entirely of Tertiary beds, as a rule abutting against the pre-Tertiary rocks of the central and lower zone. These are comparatively narrow on the east, but gradually widen, till on the north-west they spread over the plains, forming a continuous mantle covering Jhelum and Rāwalpindi Districts, and extending to the northern parts of the Salt Range. The lowest or Sabāthu group consists of grey and red gypseous shales, with subordinate bands of limestone. It is overlain conformably by the Dagshai group, composed of a great thickness of grey sandstones, with bright red nodular clays. These are followed by bright red or purple clays, overlain by sandstones which constitute the Kasauli group. The Sabāthu group yields fossils of Nummulitic age, while no recognizable fossils have been found in the Dagshai, and only plant remains in the Kasauli group; but it is probable that the two last represent the oligocene and lower miocene of Europe. The Upper Tertiary or Siwālik series is separated from all the older beds by one of the most marked structural features of the Himālayas, the main boundary fault, a great dislocation which can be traced for long distances along the lower parts of the range. Sandstones and red clay form the lowest group, being well seen at Nāhan. They are succeeded, often unconformably, by many thousand feet of very soft grey sandstone, with bands of clay. These are overlain by conglomerates which constitute the uppermost

portion of the Siwālik series. In the SIWĀLIK HILLS the thickness of the series is at least 15,000 feet. The two upper groups contain great quantities of mammalian remains of pliocene age.

The flora falls naturally into four primary divisions: the Himālayas, the submontane belt from the Jumna to the Rāvi, the plain proper, and the Salt Range on both sides of the Indus with connected country in the north-west of the Province.

The Himālayan tract includes the basin of the Sutlej, from the Tibetan border at Shipki to the hill station of Kasauli in Ambāla District; the basins of the Beās and Rāvi, from their sources to the submontane tracts of Kāngra and Gurdāspur; the basins of the Chandra and Bhāga, which unite to form the Chenāb, from the high watershed that divides their sources from the Indus valley to the eastern borders of Kashmīr and Jammu; and a promontory bounding the Kashmīr valley on the south, and culminating in the station of Murree about 6,500 feet above sea-level.

The Sutlej basin is again divided into two well-marked portions, of which the outer includes Simla District and adjoining Hill States, with Kasauli. The trees and shrubs of this portion, to about 6,000 feet, are mainly subtropical. But above this is a temperate belt which begins, roughly speaking, at Simla, and is rich in familiar European forest trees, such as yew, pines, oak and holly, elm, a horse-chestnut, several sorts of spindle-tree and buckthorn; and, among humbler growths, crowfoots, columbines, anemones, cresses, violets, stitchworts, cranesbills and St. John's worts, brambles, roses, spiraeas and wild strawberries, woodbines, guelder-rose and ivy, bell-flowers, gentians, Solomon's seal, meadow-rush, and herb-paris. The *Flora Simlensis* of the late Sir Henry Collett (edited by Mr. W. B. Hemsley) takes in only a part of the Simla Hills, but it describes 1,236 species ot flowering plants, a number somewhat less than that of the native plants of the British Islands. The component elements, however, differ materially from those of any European flora, for, apart from the subtropical contingent, the Outer Himālayas preserve many forms allied to the plants of North-Eastern Asia (e.g. *Hydrangea*), as well as Indo-Malayan types. The *deodār*, which flourishes near Simla, is related to the cedars of the Lebanon and the Atlas. East of Simla the rivers drain into the Jumna, and not towards the Sutlej, but as a matter of convenience certain petty States south-east of Bashahr and the territories of Sirmūr are grouped with the Simla area. In this tract the Chaur mountain, rising almost from the plains to over 12,000 feet, shows successive zones of vegetation, from the almost tropical valleys at its southern base to birch forest and subalpine pastures near its summit.

The upper portion of the Sutlej basin within Indian limits — that

is to say, Kanāwār and the Spiti valley, with Lāhul and Pāngi, both drained by the Chenāb—constitutes a mainly alpine field of huge extent and great elevation. The flora is most closely linked with the vegetation of Western Tibet and Middle Asia, and includes few trees and very little forest. A pine, which is also found in the mountains of Afghānistān, extends to the lower levels of the inner Chenāb basin; but, except in Pāngi, a small pencil-cedar, stunted junipers, a few scattered birches, with pollard willows grown from saplings planted by the watercourses, complete the list of trees for this portion of the Punjab Himālayas.

Crossing outwards again to the basins of the Beās and Rāvi, the Kulū valley and the higher glens of Chamba present a far more varied and luxuriant aspect to the forester or botanist. The trees are mainly those of the Simla country; but certain shrubs and herbs reappear that are rare or absent in the Sutlej valley, owing doubtless to its greater indraught from the heated sands of the Punjab and Northern Rājputāna. On the other hand, some West Asian types—for example, the wild olive and the Oriental clematis—are found in the drier parts of Kulū more abundantly than to the eastward, while a few European forms—e.g. the great spearwort and the purple loosestrife—have their eastern limit in the Beās valley. The hill stations of Dalhousie and Dharmsāla come within this area. Epiphytic orchids, which are missing from the Simla country except very locally, reappear near Dharmsāla, but do not pass west of the spurs that divide the Kāngra ranges from the basin of the Rāvi.

The Murree hills, which are separated from the Rāvi country by a long stretch of the Outer Himālayas lying within Jammu territory, differ considerably owing to the presence of a stronger West Asian element in their flora.

The submontane belt is practically restricted to the Districts of Ambāla (with its adjoining States), Hoshiārpur, and Kāngra. The *sāl* tree, which is not found elsewhere to the west of the Jumna, survives in a single *dūn* (or strath) connected with the Kāngra valley but actually within the northern border of Hoshiārpur District. The Kiārda Dūn in Sirmūr State and the Kalesar forest in Ambāla shelter a number of species that are characteristic or abundant in the Siwālik tract east of the Jumna, though unknown or rare farther westward.

The plain also has its subdivisions, which are, on the whole, even better marked than those of the Himālayas, an important influence being exercised by the climate of the Great Indian Desert which borders the whole southern limit of the Province, and sends out two arms which embrace the actual country of the five[1] rivers. That

[1] The Beās, Rāvi, Chenāb, Jhelum, and Indus. The Sutlej is included in Hindustān, of which at the same time it forms the traditional boundary.

on the east takes in a great part of the Phūlkiān States, its apex being near the town of Ludhiāna, on an ancient bed of the Sutlej. The western arm (locally known as the Thal) extends from the Sind border up the Indus valley to the south-west angle of the Salt Range. The eastern chain of sandhills and alternating barriers has of late, however, lost much of its desert character through canal extensions. From Ludhiāna to the Jumna valley, and along the Jumna to the neighbourhood of Delhi, the country is substantially a portion of the great Gangetic plain, though some interesting peculiarities present themselves: a crowfoot (best known from North-Eastern America) occurs, also a rose which is elsewhere most abundant in the swamps of Eastern Bengal, and a kind of scurvy-grass (*Cochlearia*), a genus usually partial to far colder latitudes. The south-east portions of the Province, and the upland tract skirting the western valley of the Jumna, present certain features of the Deccan flora, merging ultimately in the Arāvalli system. Trees in the extreme south-east are few, and mostly of Arabian or North African affinity. Similar forms, though seldom reaching the dimensions of a tree, characterize the southern fringe of the Punjab; but towards the Indus, a West Asian or indeed European element becomes prominent, in the case especially of those field annuals which come up each winter with the crops of the season: such as poppy, fumitory, rockets, catchfly, spurrey, chickweed, vetches and trefoils, thistles, blue pimpernel, bindweed, toadflax and veronicas, broomrape, goosefoots, milkspurges, asphodel and others.

Between the desert and the Indus the *doābs* bounded by the great rivers presented formerly a succession of alkaline wastes, often covered with low bushes of the saltwort tribe, or untilled expanses dotted with a scrub of thorny bushes of the acacia family and of *van* (*Salvadora*, a desert representative of the olive), with an occasional row of tamarisks near a creek or waterhole, relieved in the autumn by a short-lived flush of climbing plants, and in good seasons by an abundant crop of grasses, which afforded coarse but invaluable pasture to the cattle of the nomad population. Canal extension and systematic state colonization are now changing all this rapidly, and the flora is approximating to the general spring and autumn series of agrestal species of Northern India, though a strong West Asian admixture maintains itself. Beyond the Indus, in Dera Ghāzi Khān District, this 'Oriental'[1] element begins to predominate, even as regards shrubs and perennials; and it continues northwards to the Salt Range and the hills near Attock, where several types common to the Orient and the Mediterranean—e.g. pinks and larkspurs—may be gathered at less than 2,000 feet above sea-level.

[1] The region from the Mediterranean to the Indus, and between the Red Sea and the Steppes, is thus termed by botanists.

Himālayan forms are still prevalent in the Salt Range, especially at the higher levels. On the north face of the culminating summit (Sakesar), at about 4,800 feet above the sea, there are a few oaks, of a common North-West Himālayan species, while herbaceous plants of the same region intermingle with trans-Indus representatives; but the slopes abound with box-trees, olives, and other Western forms. The herbs and grasses, moreover, although Indian forms abound, include a decided proportion of more Western types; but, owing to the dryness of the climate, these are usually such as characterize the arid zone that extends on the west through Africa to the Atlantic Islands.

Until the beginning of the nineteenth century both lions and tigers appear to have been common, and the Nardak of the Eastern Punjab was a favourite hunting ground of the Mughal emperors. As late as 1827 Major Archer says that lions were sometimes seen within 20 miles of Karnāl, while tigers were exceedingly numerous in its immediate vicinity; and in the neighbourhood of Sirsa and in other parts of the Punjab tigers were abundant until past the middle of the nineteenth century. Lions are now entirely extinct and tigers practically so, though occasionally a straggler from the Arāvalli Hills is found in the South-East Punjab, or one from the eastern *tarai* in Nāhan or Ambāla. Another animal practically extinct in the Punjab is the wild elephant, though it is occasionally met with in Nāhan and Ambāla. The only common representatives of the feline tribe are the leopard, the hunting leopard, and the wild cat, with the lynx, along the southern border; the leopard is chiefly found in the hills. Two kinds of bear, the black and the brown, are found in the hills; hyenas and wolves are seen in most Districts, but are not common; jackals and foxes on the other hand abound. Ibex and *bharal* are found in the Higher Himālayas, and lower down musk deer, barking-deer, and wild goats; in the Salt Range the *uriāl* (*Ovis vignei*) is not uncommon. In the plains antelope are plentiful, especially in the east and south of the Province, and *nīlgai*, 'ravine deer' (*chinkāra*), and hog deer (*pārha*) are common in places. The wild hog, badger, porcupine, and hare are found in most parts. The grey ape (*langūr*) lives in the hills, and monkeys abound, both in the hills and in the canal-irrigated Districts. The otter and river porpoise are found in all the rivers.

Peafowl are plentiful, and so is the lesser bustard; the great bustard is less common. Flocks of sand-grouse (imperial painted, pallas, and pintail) are frequently seen in the dry tracts. The grey partridge is found everywhere, and the black partridge is occasionally met with; in the hills the *chikor* (*Caccabis chukor*) and *sīsī* (*Ammoperdix bonhami*) partridges are common, and the snow partridge is found at high elevations. All the Indian pheasants are found in the Himālayas, including the argus, *monal*, *koklas*, *chīr*, and white-crested pheasant. Bush-quail

and rain-quail are found in the plains, and the common grey quail comes in hosts at the ripening of the wheat. In the winter large numbers of water-fowl visit the rivers and *jhīls*. The most common ducks are the sealing-wax bill, pintail, mallard, pinkhead, shoveller, teal, and goose teal; geese, cranes, flamingoes, pelicans, ibises, herons, bitterns, snipe are all also more or less plentiful. The crow, vulture, and kite are ubiquitous, and the adjutant bird is occasionally met with. Hawks of various species are found, and often fetch high prices for sporting purposes. Green parrots fill the air with their screeching in the irrigated tracts, the golden oriole sometimes flashes through the trees, and the blue jay and woodpecker lend a frequent note of colour to the scene. Immense flocks of rosy pastors visit the plains in the hot season, and the *maina* is common everywhere in the neighbourhood of houses.

The sharp-nosed or fish-eating crocodile (*ghariyāl*) is found in all the great rivers, and the blunt-nosed crocodile or *magar* (*Crocodilus palustris*) is also met with in the lower reaches. The poisonous snakes are the *karait*, cobra, *Echis carinata* (*kappa*), and, in the east of the Province, Russell's viper. Lizards of various kinds are common. The commonest fish are the *rohu* (*Labeo rohita*) and mahseer, the latter of which runs up to 50 lb.

Locusts sometimes arrive in swarms, chiefly from the south-west, and do considerable damage. White ants attack timber and garnered grain, which is also much subject to injury from weevils. Mosquitoes abound, and with sandflies combine to make life a burden in the hot season; and house-flies swarm, especially towards the beginning and ending of winter. Scorpions and centipedes are numerous, but not much seen. The honey-bee, hornet, and wasp are common, and the firefly's flashing light is to be seen wherever there is irrigation.

Over the greater part of the Punjab the climate is of the most pronounced continental character, extreme summer heat alternating with great winter cold; but its diversified surface, including montane, submontane, and plains zones, modifies very largely the temperature, weather, and climate in different parts of the Province. The Punjab has accordingly been divided into four natural divisions, in each of which the general meteorological conditions are believed to be fairly homogeneous. These are the Himālayan (stations, Simla and Murree), the sub-Himālayan (stations, Ambāla, Ludhiāna, Siālkot, and Rāwalpindi), the Indo-Gangetic Plain West (stations, Delhi and Lahore), and the south-west dry area (stations, Khushāb, Montgomery, Multān, and Sirsa).

As a whole, the Punjab has in normal years two well-defined rainy seasons. The first or period of the north-east monsoon includes the 'Christmas rains,' as they are called, which fall between the end of

December and the end of February or the middle of March. The second rainfall period is that of the south-west monsoon, from the end of June to the middle of September. The rainfall is naturally heaviest in the Himālayas. The highest average received is 126 inches at Dharmsāla, and the average of the Himālayas is nowhere less than 36. In the plains the rainfall decreases rapidly away from the hills. The submontane zone, which skirts the foot of the hills, and of which Rāwalpindi and Siālkot may be taken as typical stations, has an annual fall of 30 to 40 inches. The eastern plains from Delhi to Lahore belong to the West Gangetic plain, and have a mean rainfall of about 24 inches, the valley of the Jumna having a higher rainfall than the rest. To the west and south-west lies the dry area, characterized by an extremely light and variable rainfall, and a heat and dryness in the hot season extreme even for the Punjab. The ordinary south-west monsoon winds from the Sind and Kāthiāwār coasts encircle but do not blow into this area, which therefore gets very little rain from this source, though it occasionally receives heavy cyclonic downpours from storms that have travelled westward from the head of the Bay. Montgomery and Multān are typical stations of this tract.

The plains, owing to their arid nature and remoteness from the sea, are subject to extreme vicissitudes of climate. In the winter the cold exceeds anything met with elsewhere in the plains of India. In January and February the night temperature commonly falls below freezing-point, while by day the thermometer does not as a rule rise above 75°; and for four months of the year nothing can be more perfect than the Punjab climate, with its bright sun and keen invigorating air. In summer, on the other hand, the fierce dry heat is surpassed only in Sind. In June the thermometer commonly reaches 115° to 121°, while the night temperature averages from 79° to 83°.

About the end of December the weather conditions ordinarily become disturbed; rain falls in the plains and snow on the hills. The rainfall of this season is almost exclusively due to cold-season storms or cyclones, which follow each other at varying intervals, averaging about ten days, from the end of December to about the middle of March. Important features of these storms are the rapid changes of weather which accompany them. Their approach is preceded by the appearance of a bank of cirrus cloud, which gradually overspreads the whole sky. Under this canopy the heat rapidly increases, more particularly at night, and temperatures from 5° to 15° higher than usual are registered. In the rear of the disturbance a rapid change takes place, accompanying the clearing of the skies and the change of wind. The thermometer falls with great rapidity, sharp frost on the ground is experienced, and air temperatures of 18° or 19° are occasionally recorded at the hill stations. This fall of temperature appears to be

directly related to the snowfall on the hills, and is proportional to the amount of the snowfall and to the lowness of the elevation to which it descends. As the rainfall of this period accompanies the march of cyclonic storms from west to east across Northern India, it is ordinarily heaviest at the northern and Indus valley stations, and usually diminishes to a very small amount over the south and south-east.

The mean temperature in most parts increases from February to May at about the rate of 10° a month, and by the end of March or beginning of April the hot season is in most years fairly established. From April till near the end of June there is, as a rule, no rain of importance, though occasional thunder- and hailstorms afford temporary relief from the great heat. A desiccating, scorching west wind blows during the greater part of this period, and the thermometer ranges from about 95° in the early morning to about 115° in the heat of the day. These westerly winds commence to drop towards the end of June, and for a few days calm, sweltering heat succeeds the scorching blasts of the hot winds. About the end of June south and east winds bring up heavy cumulus clouds, and in favourable years the monsoon rains are then ushered in with violent thunderstorms and heavy showers. The rainfall is generally very variable and irregular in its advance, and is ordinarily brought up by the approach to the south-east of the Province of a cyclonic storm from the Bay of Bengal. This carries with it the moist south-east air-currents from the Bay, and at the same time induces an inrush of moist air from the north of the Arabian Sea across the Sind and Kāthiāwār coasts and eastern and central Rājputāna into the South and East Punjab. The rainfall of the monsoon season is seldom steady or continuous, nor does it, as a rule, extend over the whole Province, as in the west and south the fall is both scanty and uncertain. For two or three days in succession heavy, fairly general rain may fall; but this is succeeded by intervals of oppressively hot and sultry weather, when the rain ceases or only falls as scattered showers. These conditions continue with greater or less intensity till the second or third week of September, when, with not infrequently a second outburst of violent thunderstorms, the rains cease and fine weather commences.

Severe cyclonic storms are practically unknown in the Punjab. Hailstorms are fairly frequent, especially in March and April, and often cause considerable damage to the crops.

Although the Province is traversed or bounded by seven large rivers, it is not to any serious extent subject to inundations from them, and it is only in the comparatively narrow riverain belts bordering the channels of the rivers that floods do serious harm. An exception to this generalization is to be found in the extreme south-west, where parts of the Districts of Dera Ghāzi Khān, Muzaffargarh, and Multān, border-

ing on the Chenāb and Indus, are low enough to be subject to frequent inundations even during the passage of normal floods. Protection is afforded by the erection of dikes, but they are not always sufficiently strong to resist a heavy spate. Nearly all the high floods of which records exist have occurred in July or August, when the summer monsoon is at its height. The earliest of these was in 1849, when the town and civil station of Shāhpur were washed away by the Jhelum. In 1856 and in 1878 the Indus rose very high, and on both occasions the towns of Muzaffargarh and Dera Ghāzi Khān were flooded out and large portions of the Districts submerged. In 1892, 1893, and 1905 the Chenāb and the Jhelum were heavily flooded, and in the second of these years the Kohāla suspension bridge on the Kashmīr road was carried away. The great Indus flood of 1878 is said to have been in part the result of heavy landslips in the hills.

Throughout the period over which authentic records of Indian earthquakes extend, the Punjab has repeatedly suffered from the effects of seismic disturbances of greater or less intensity. This is due to the presence of important lines of weakness in the earth's crust, caused by the stresses involved in the folding of the Himālayas and resulting in the development of faults. The most important of these is that known as the 'main boundary fault,' which runs through the Lower Himālayas from end to end of the Punjab. Along these lines readjustments of the equilibrium of the crust are constantly taking place, and when these readjustments are irregular or spasmodic the movement results in an earthquake. Such earthquakes as are due to this cause are naturally most severe in the neighbourhood of the fault. A striking exemplification is to be found in the Kāngra earthquake of 1905. About 20,000 human beings perished in this catastrophe, which ranks as one of the most disastrous of modern times. The loss of life occurred principally in the Kāngra valley, Dharmsāla, Mandī, and Kulū, but the shock was perceptible to the unaided sense throughout an area of some 1,625,000 square miles. Although this most recent catastrophe dwarfs all earthquakes previously recorded in the Province, those of 1803, 1827, 1842, and 1865 were of considerable severity.

History.

The Punjab was undoubtedly the seat of the earliest Aryan settlements in India, and the Rig-Veda was probably composed within its borders. In one of its finest hymns the Vipāsa (Beās) and Sutudrī (Sutlej) are invoked by the sage Visvāmitra to allow the host of the Bharatas to cross them dryshod. And in the later Vedic period the centre of Aryan civilization lay farther to the south-east, between the Sutlej and the Jumna, in the still sacred land of KURUKSHETRA round Thānesar, the battle-field of the Mahābhārata, while Indrapat near Delhi still preserves at least the name of Yudhishthira's capital, Indraprastha. For a brief period

after 500 B.C. part of the Punjab may have formed a Persian province, the Indian satrapy conquered by Darius, which stretched from Kālābāgh to the sea, and paid a tribute of fully a million sterling.

In invading the territories east of the Indus Alexander yielded to mere lust of conquest, for they no longer owed allegiance to the Persian empire. In 326 B.C. he crossed the river at Ohind or Und, invading thereby a dependency of Porus (Paurava), whose kingdom lay in the Chaj Doāb. The capital of this dependency was Taxila (Sanskrit, Takshasilā), now the ruins of Shāhdheri, but then a great and flourishing city, which lay three marches from the Indus. Its governor, Omphis (Ambhi) or Taxiles, was in revolt against Porus, and received the Macedonians hospitably. Leaving Philippus as satrap at Taxila, Alexander, reinforced by 5,000 Indians under Taxiles, marched to the Jhelum (Hydaspes), where he found Porus prepared to dispute his passage of the river, probably near Jhelum town. Alexander, however, turned his enemy's right flank by crossing higher up, and defeated him with great loss. Porus himself was captured, but soon admitted to alliance with the Macedonians and granted the country between the upper reaches of the Jhelum and Chenāb (Bhimbar and Rājauri). His nephew, also named Porus, ruler of Gandaris (possibly the modern Gondal Bār, between the Chenāb and the Rāvi), had already tendered his surrender; but the Macedonians crossed the Chenāb and drove him across the Rāvi. Here, in the modern District of Amritsar or Gurdāspur, Pimprama, the capital of the Adraistoi, surrendered to Alexander, and he then invested Sangala, the capital of the Kathaioi. Having taken it by assault he advanced to the Beās; but his soldiers being reluctant to cross that river, he erected twelve massive altars on its bank to mark the eastern limits of his invasion, and returned to the Jhelum, making Porus governor of all the conquered country west of the Beās.

At his newly founded city of Bucephala (? Jhelum), Alexander now prepared a flotilla to sail down the Jhelum and the Indus to the sea. Starting late in October, 326 B.C., the Macedonians marched in two divisions, one on either side of the river, Alexander himself with some of the troops sailing in the fleet, which numbered nearly 2,000 vessels, great and small. At the capital of Sophytes (probably Bhera) he was joined by Philippus, and thence hastened to invade the territories of the Malloi and Oxydrakoi, two powerful tribes which held the country south of the confluence of the Jhelum with the Chenāb. The strongholds of the former soon fell, as did a Brāhman city (? Atari or Shorkot); but the capital of the Malloi offered a desperate resistance, and had to be carried by assault, in which Alexander himself was wounded. The Malloi and Oxydrakoi now submitted, and the satrapy of Philippus was extended to the confluence of the Chenāb with the Indus,

including the Xathroi and Ossadioi tribes. At the confluence of these rivers Alexander founded a city, possibly the modern Uch Sharīf, and thence sailed on down the Indus to the capital of the Sogdoi, where he fortified another city, constructed dockyards, and repaired his ships. His voyage now lay through the kingdom of Mousicanus, corresponding to the modern Sind.

Alexander thus made no attempt to hold the Punjab east of the Jhelum. That country he designed to make a dependent kingdom under Porus, while Philippus governed the Sind-Sāgar Doāb as satrap. This arrangement, however, did not endure. In 324 Philippus was murdered by his mercenaries, and no successor was appointed, Eudamus and Taxiles being ordered to carry on the administration. After Alexander's death Porus ousted Peithon from Sind, and in revenge Eudamus decoyed him into his power, and murdered him six years later. His execution was the signal for a national revolt against the Macedonian power. Eudamus withdrew with his Greek garrison, and Chandragupta (Sandrocottus), the Mauryan, made himself master of the Punjab and the lower Indus valley. Himself a native of the Punjab, Chandragupta organized the predatory tribes of the north-west frontier against the Greeks. His mastery of the Punjab enabled him to conquer Magadha; and when, about sixteen years later, in 305 B.C., Seleucus Nicator, king of Syria, marched into India to recover Alexander's Indian conquests, he was content to cede to Chandragupta even the territory west of the Indus, and to give him a daughter in marriage. Under his son Bindusāra and his grandson Asoka, Buddhism became the state religion of the Punjab, as is shown by the pillar erected at Topra and by the Buddhist remains at SUI VEHĀR, in the Bahāwalpur State, and in the Kāngra valley. Under the Mauryan dynasty Taxila remained the capital of the great vice-royalty, which extended from the Sutlej to the Hindu Kush, and probably included Sind. After Asoka's death Euthydemus, who had usurped the Graeco-Bactrian throne, extended the Greek power in India. In 205 or 206 Antiochus III of Syria acknowledged his independence, and then crossed the Paropamisus into India and made a treaty with Sophagasenas (Subhāgasena), returning to Syria in the following year. Ten years later, in 195 B.C., Demetrius, son of Euthydemus, reduced the Punjab, rebuilt Sagala, which he renamed Euthydemia, and extended his conquests so far that Justin calls him 'King of the Indians.' But while engaged in these conquests he lost Bactria, and his successors appear to have ruled only over the Western Punjab and the Kābul valley; but little is known about them until Menander raised the Graeco-Bactrian power to its zenith in India. According to Plutarch, Menander's territories extended to the Narbadā and Indus delta. But this great kingdom was doomed, as we shall so often find

its successors were doomed, to fall before barbarian invasion from the west.

By 100 B.C. Maues or Moga, king of the Sakas, a tribe expelled from Sogdiana by the Yueh-chi, founded a kingdom in the North-West Punjab, with its capital at Taxila, which endured for about seventy years. This kingdom was overrun by Kozula Kadphises, the chief of the Kushan tribe of the Yueh-chi. He also destroyed the last Greek principality in India, and his son Wemo Kadphises (Himakapisa) had extended his sway all over North-Western India by A.D. 10[1]. About A.D. 25, however, we find a Parthian satrapy established in Afghānistān and Northern India, with Gondophares, the Gundoferus of St. Thomas's mission, as its founder. The Parthian power was short-lived, for by A.D. 78 the Kushans had recovered their supremacy in the person of Kanishka, under whom the so-called Scythian power reached its zenith. He was succeeded by Hushka (Huvishka) and Jushka (Vāsudeva). Under the latter the Kushan dominions shrank to the Indus valley and Afghānistān; and the dynasty was then supplanted by Ki-to-lo, chief of the Little Yueh-chi, and he in turn by the Ephthalites or White Huns about the middle of the fifth century. Under Toramāna and his son Mihirakula these Huns held Northern India, Sagala being their capital. The latter is doubtless the great Mihirakula of the *Rājataranginī*, who lost his empire in Central India and gained the kingdom of Kashmīr, retaining probably the Punjab until his final overthrow at Karor in 544, after the Ephthalite power had endured for a century. Space precludes any detailed account of the religious history of the Punjab after Asoka made Buddhism its state religion; but the coins of the Kushan kings bear effigies of Zoroastrian, Greek, and Hindu divinities, while Mihirakula's persecution of the Buddhists was terrible in its severity, a policy which probably contributed to his downfall. At all events, Buddhism was now on the decline.

In the latter half of the sixth century arose the great kingdom of THĀNESAR. This, however, included only the Punjab east of the Jhelum river; for in the middle of the seventh century Hiuen Tsiang, the Chinese pilgrim, found Taxila and Singhapura in the Salt Range dependent on Kashmīr, while the Central Punjab from the Indus to the Beās formed the kingdom of Tseh-kia, whose capital lay near Sākala, and to which Multān was a subject principality. Early in the eighth century Thānesar ceased to exist as a great kingdom, and the Tomar dynasty of Kanauj established itself in the South-East Punjab, where it held Hānsi and founded Delhi. After a century's dominion, the Tomars were supplanted by the Chauhāns of Ajmer in 1151.

The Muhammadan conquerors of India invaded the Punjab by two

[1] The date of the Kushans is still in dispute.

distinct routes. As early as the year 38 of the Hijra the Khalīfa Alī had appointed governors to the frontiers of Hind, and six years later, in A.D. 664, a Muhammadan general penetrated to Multān. This inroad, however, resulted in no permanent conquest; and the first real invasion occurred in 712, when Muhammad bin Kāsim, another of the Khalīfa's generals, conquered Sind and took Multān, which then lay on the north bank of the Rāvi, in the dominions of Dāhir, ruler of Sind. He made Multān the base of further inroads, and garrisoned Bramhapur on the Jhelum, the modern Shorkot, Ajtahād, and Karor; and afterwards, with 50,000 men, he marched via Dipālpur to the foot of the Himālayas near Jhelum. But his ill-deserved execution prevented a farther advance; and it was not till some years later that the whole province of Multān was reduced, and the part of the Punjab dependent on Kashmīr subdued.

By 871 the power of the Khalīfat was on the decline, and Multān became an independent and prosperous kingdom under an Arab dynasty. The rest of the Punjab was divided among Hindu kings, the Brāhman dynasty of Ohind probably holding the Salt Range, while as early as 804 Jālandhara or Trigarta was an established kingdom.

More than a century elapsed before the Muhammadan advance was resumed, and Ghazni now becomes its base. In 979 Jaipāl, king of Lahore, advanced on Ghazni to encounter Sabuktagīn, its Amīr, at Laghmān, but effected a treaty and retired, only to be defeated there nine years later, in 988. Jaipāl was then in alliance with the kings of Delhi, Ajmer, Kālinjar, and Kanauj; and his defeat was decisive, as he had to surrender four strongholds towards Ghazni. Sabuktagīn occupied the country up to the Indus; and Shaikh Hāmid, the Afghān governor of Multān, also did homage to him. Sabuktagīn was succeeded by the renowned Mahmūd of Ghazni, who in 1001 commenced a series of inroads into India. In the first, Jaipāl was defeated near Peshāwar, and, having burnt himself to death, was succeeded by his son Anand Pāl. The latter allied himself with the governor of Multān, Abul Fateh Lodī, but was also defeated at Peshāwar in 1006, whereupon Multān was reduced. In 1009 Anand Pāl, who had formed a great coalition of Hindu rulers, including those of Ujjain and Gwalior, met with his second defeat near Peshāwar, after which Mahmūd sacked Nagarkot or Kāngra. Nevertheless in 1010 Mahmūd had again to subdue Multān, where the Karmatian heretics had revolted, and deport its Lodī governor. In 1014 he reduced Nandana, a fastness in the Salt Range, driving Trilochan Pāl, Anand Pāl's son and successor, to seek an asylum in Kashmīr; and in the same year he plundered Thānesar. The subjugation of the greater part of the Punjab was hardly completed before 1021, when Trilochan Pāl was defeated again and slain. It was left, however, to Masūd, son

of Mahmūd, to reduce Hānsi, the old capital of Siwālik, in 1036. But the Ghaznivids were already destined to succumb to a stronger power, and as early as 1041 Masūd was compelled by the Seljūk Turks to retreat into the Punjab. Nevertheless Ghazni remained the centre of their authority; and it was only as the Turkish power in Central Asia increased that they gradually withdrew into the Punjab, until their kingdom was virtually confined to that province.

Finally, in 1181, Khusrū, who significantly bore only the title of Malik, not that of Shāh, surrendered Lahore to the invader, usually called Shahāb-ud-dīn, but more correctly Muizz-ud-dīn, Muhammad of Ghor. Muhammad was governor of Ghazni under his brother, the Sultān of Ghor, when in 1175–6 he took Multān from the Karmatians and laid siege to Uch, which was betrayed by its queen. In 1179 he captured Peshāwar. Meanwhile the Kashmīr ruler had invoked his aid against Khusrū, who was endeavouring to consolidate his power in the Punjab, with the result already related. In 1191 Muhammad of Ghor made his first great expedition into the South-East Punjab. After conquering Sirhind, which he garrisoned, he advanced to meet Prithwī Rāj of Ajmer, who, with his brother, the ruler of Delhi, and all the chiefs of Hind, encountered him at Talāwari, near Thānesar. Muhammad was defeated and wounded. In the following year, however, he returned and, though too late to relieve Sirhind, overwhelmed Prithwī Rāj, whom he captured, and whose brother, Rai Govind of Delhi, fell in the battle, which was fought on the scene of Muhammad's former defeat. By this victory Ajmer with all the Siwālik territory, including Hānsi, fell into his hands; and his slave and lieutenant Kutb-ud-dīn Aibak completed his work, taking Delhi in the following year (1193). The tribes of the Salt Range, however, made the communications between Ghazni and Lahore precarious; and, though he suppressed them with ruthless severity, Muhammad was in 1206 assassinated by them on his way to Ghazni.

On Muhammad's death Kutb-ud-dīn established himself as an independent ruler at Lahore, another slave, Tāj-ud-dīn, obtaining Ghazni. Tāj-ud-dīn soon ousted Nāsir-ud-dīn Kubācha from Lahore, which he held for Kutb-ud-dīn, but the latter, advancing from Delhi, drove him back to Kirmān in the Kurram valley, and for six weeks occupied Ghazni. On his death in 1210 his slave Shams-ud-dīn Altamsh was raised to the throne at Delhi, while Nāsir-ud-dīn secured most of the Punjab. But Tāj-ud-dīn, driven from Central Asia by the Khwārizmis, retreated into the Punjab, wrested Lahore from Nāsir-ud-dīn, and attacked Altamsh, only to be defeated and taken prisoner at Talāwari. Altamsh then seized Lahore, and thus became master of the Punjab, though Nāsir-ud-dīn maintained himself at Uch. Meanwhile, the Khwārizmis themselves had had to yield to the invading

Mongol hordes, and in 1221 their Sultān Jalāl-ud-dīn fled into the Punjab, pursued to the west bank of the Indus by Chingiz Khān. Escaping from his pursuer with a handful of followers, Jalāl-ud-dīn defeated an army of Altamsh, but fearing to attack Lahore turned south towards Multān and Uch, overthrew Nāsir-ud-dīn, and returned to summer in the Salt Range. These events led to the first Mongol invasion of the Punjab. Alarmed by Jalāl-ud-dīn's successes, Chingiz Khān had dispatched against him a force which captured Nandana and invested Multān. In the following year (1223) another Mongol army compelled Jalāl-ud-dīn to evacuate the Punjab, after burning Uch in his retreat.

Five years later Altamsh defeated Nāsir-ud-dīn and annexed Multān and Uch, with Sind. His authority, thus extending over nearly the whole Punjab, was confirmed in 1229 by a diploma of investiture from the Abbassid Khalīfa of Baghdād. He failed, however, to extend his frontier beyond the Salt Range, and an unsuccessful expedition against the Mongols in that quarter was followed by his death in 1236. Under the influence of 'the Forty,' a corps of Turkish Mamlūks which he had formed, his dynasty rapidly decayed. His daughter Razia, the only Muhammadan queen who ever ruled at Delhi (1236–40), had to face religious disaffection within the city, where a Karmatian rising was suppressed after much bloodshed. Her feudatories of Lahore, Hānsi, and Multān also rebelled, though unsuccessfully; but such was the weakness of the kingdom in 1241 that a Mongol army sacked Lahore. Uch, with Sind, became independent, and the Turkish Amīrs deposed Razia's successor, Bahrām Shāh, a degenerate son of Altamsh, in the following year. The reign of the next king, Alā-ud-dīn Masūd, was chiefly noteworthy for the rise of Balban, one of 'the Forty' who in 1246 compelled the Mongols to raise the siege of Uch. For the next twenty years, Balban and his cousin, Sher Khān, feudatory of Lahore, kept the Mongols and Karlugh Turks at bay. Under Balban's stern rule the disaffection, which had brought rapine to the very gates of Delhi, was checked. More than once he had to ravage the Mewāt, while the Mongols made good their footing in the Indus valley, and, aided by a disloyal vassal at Uch, placed an intendant at Multān. In 1266 Balban was placed on the throne of Delhi, and devoted his whole reign to organizing resistance to the Mongol encroachments. The power of 'the Forty' was broken. Sher Khān died, not without suspicion of poison. Balban's son Nusrat-ud-dīn Muhammad, the patron of the poet Amīr Khusrū, bid fair to continue his father's work, but in 1285 fell in battle with the Mongols near Dīpālpur, and earned his title of 'the Martyr Prince.'

Two years later Balban died, and was succeeded by the Khiljī line of Sultāns in 1290. Its founder, Fīroz Shāh II, had to contend with

religious disaffection, and in 1296 was assassinated by Alā-ud-dīn Muhammad Shāh, his nephew and son-in-law, who usurped the throne. Alā-ud-dīn's ambition led him to attempt conquests in Southern India, while from 1296 to 1305 the Mongols overran the Punjāb. In 1298, with 200,000 men, they penetrated to Delhi, but met with severe defeat under its walls. In 1303 they beleaguered the Sultān within the city, and, though compelled to retreat after a few months' siege, invaded Hindustān in the following year. Alā-ud-dīn now reorganized his forces, and rebuilt the frontier towns of Sāmāna and Dīpālpur, but failed to protect Multān and the Siwāliks from the Mongol inroads. In 1304, however, Ghāzi Beg Tughlak, governor of the Punjab, routed their retreating forces and secured a respite from their inroads until Muhammad Shāh's death in 1316. Four years of anarchy followed, but eventually Ghāzi Beg seized Delhi and established the Tughlak dynasty. Like his Khiljī predecessor, the founder was assassinated by his eldest son, Muhammad, who in 1325 caused a pavilion to fall on him, and ascended his throne. Muhammad bin Tughlak is the most striking figure in mediaeval Indian history. Though his father had built the great fortress of Tughlakābād, now a cyclopean ruin, near Delhi, he endeavoured to transplant his capital to Deogiri in the Deccan. While unable to withstand the Mongols, who in 1327 ravaged Multān and had to be paid a vast ransom to spare Delhi, he planned the conquest of China, Khorāsān, and trans-Oxiana. A scholar, a poet, and a patron of letters, he was as a ruler ruthlessly severe. His economic measures included the introduction of a token currency, and led to frightful disorders and distress. In and around Delhi a terrible famine, caused by his exactions, raged for years; but the Sultān took vigorous measures to restore prosperity, and organized a system of loans to the starving peasantry. He obtained a formal recognition from the Abbassid Khalīfa of distant Egypt, though he ruled an independent kingdom as wide as that of Aurangzeb. Nevertheless his power was built on sand. The Afghāns, who now appear for the first time on the north-west frontier, overwhelmed Multān in 1343. Even the country round Sunām and Sāmāna was in open revolt, and the Gakhars seized Lahore. Eventually Muhammad bin Tughlak died of fever in 1351 while on an expedition in Sind, leaving the kingdom to his cousin the noble Fīroz Shāh III. With this king's accession the modern history of the Punjab begins to take shape. He dug canals, notably that from the Jumna, and founded Hissār. Sirhind was colonized and became a separate government. Nagarkot (Kāngra) was taken, and Sirmūr and the hills north of Ambāla were subdued.

Fīroz Shāh reigned for thirty-seven years and was succeeded, after the usual interlude of anarchy, by Muhammad Shāh III in 1390. Mewāt, however, was in revolt and the Khokhars under Shaikha seized

Lahore. Prince Humāyūn was about to march against them, when his father's death recalled him to the throne, and the rebellion had to be put down by Sārang Khān, feudatory of Dīpālpur, in a regular campaign in 1394. By 1395 the empire had fallen into chaos. Rival puppet Sultāns waged war on one another from their opposing capitals at Delhi, while Sārang Khān attacked Multān on his own account. On this scene of disunion the Mongols reappeared in force. In 1397 Pīr Muhammad laid siege to Uch, Sārang Khān's fief, defeating a relieving force, and also invested Multān, which surrendered in 1398, and thus paved the way for Tīmūr's great inroad of that year. Crossing the Indus south of the Salt Range, Tīmūr plundered Talamba in September, and advanced via Ajodhan to Bhatner. Thence his march lay through Fatehābād, Tohāna, across the Ghaggar, through Kaithal and Pānīpat to Delhi, which he sacked on December 26. Crossing the Jumna he attacked Hardwār, and recrossing the river in January, 1399, defeated Ratn Sain (probably the Rājā of Sirmūr) in the Kiārda Dūn, advanced through the Siwāliks, took Nagarkot and Jammu, and encamped at Bannu early in March. In this incredible march Tīmūr massacred men, women, and children by tens of thousands, and reduced the country along his route to ruin. It is, however, a consolation to read that he killed some thousands of Jats near Tohāna because they were given to robbing travellers. The only immediate result of his inroad was to reinstate Khizr Khān in possession of Multān, which Sārang Khān had wrested from him. On his departure the struggle for Delhi recommenced, with the added miseries of pestilence and famine. The Punjab fiefs remained virtually independent, and indeed Delhi never regained her ascendancy until Bābar founded the Mughal dynasty.

Eventually in 1414 Khizr Khān, who had been practically master, not only of Multān, but of the whole Punjab since Tīmūr's departure, took Delhi and founded the Saiyid dynasty, which owned a nominal allegiance to the Mongols. But the four Saiyid rulers were as weak as those whom they had supplanted. The Mongol governor of Kābul exercised a fitful control over the Punjab, which was in constant revolt under its Turk and Khokhar feudatories. Again, the necessity for a strong warden of the marches compelled Muhammad Shāh IV to entrust Dipālpur and Lahore to Bahlol, a Lodī Afghān, in 1441; but Bahlol soon patched up a peace with the Khokhars, and in 1451 took Delhi and founded the first Afghān or Pathān dynasty. Multān had become an independent kingdom in 1443. Under the Lodīs the Punjab enjoyed such peace as a country no longer worth plundering might enjoy. The period is remarkable for a popular religious revival, for it produced Nānak (1469–1538), the founder of Sikhism.

In 1526 Bābar, a fugitive king of Samarkand, defeated Ibrāhīm, the

Lodī king of Delhi, at Pānīpat, and thus established the Indian empire of the Mughals. As usual, disunion and disaffection had led to the ruin of the Afghān domination. Daulat Khān, himself a Lodī, governor of the Punjab, sought the aid of Bābar, then king of Kābul, against his kinsman, and enabled him to seize Lahore in 1524, when he established Alā-ud-dīn, Daulat Khān's uncle, as 'Sultān' at Dīpālpur. Daulat Khān, now alarmed for his own safety, raised a force to oppose Bābar, who had returned to recruit fresh troops in Kābul, but offered little resistance; and Bābar, having seized his stronghold in the Siwāliks, marched down the Jaswān Dūn, crossed the Sutlej, and overthrew Ibrāhīm at Pānīpat in April, 1526. Bābar spent the last years of his life in establishing his rule in India from the capital at Agra, and, on his death at the age of forty-eight, Humāyūn succeeded him in 1530. But Kāmrān, Bābar's second son, promptly annexed the Punjab, and, though the Afghān power was still far from crushed, Humāyūn frittered away his power in a futile conquest of Gujarāt. In 1540 Sher Shāh drove him out of India, through the Punjab and into the desert country near Uch, whence he fled to Persia. Sher Shāh held effective control of the Punjab, building Rohtās in Jhelum District to overawe the Gakhars of the Salt Range, who had long been vassals or allies of the Mughals. Aided by the Shāh of Persia, Humāyūn expelled Kāmrān from Kābul in 1547, and eight years later he overthrew Sikandar Sūri, who had seized the Punjab, defeating him at Sirhind in 1555. Sikandar retreated to the Kāngra hills, and Akbar was pressing in pursuit of him when he received news of Humāyūn's death at Delhi in 1556.

With Akbar's accession a new era began. The Mughal empire was finally and firmly established, and the Punjab, after twenty years of incessant war, enjoyed comparative peace. Sikandar was indeed intrenched at Mānkot, and Hīmu, a shopkeeper of Rewāri, who had risen to be Wazīr of the last of the Afghān emperors, seized Delhi and proclaimed himself ruler of India under the title of Vikramājīt. In 1556, however, Akbar routed him at Pānīpat. Mānkot surrendered after an eight months' siege, and only a difficult campaign was required to secure the north-west frontier in 1586. With the rest of India, the Punjab benefited by Akbar's reforms and owes to him the foundations of its modern revenue system.

The accession of Jahāngīr in 1605 was followed almost immediately by the revolt of his son Khusrū, who escaped from Agra and laid siege to Lahore. The rebellion was suppressed by the emperor in person, and the adherents of the defeated prince were punished with fearful severity. In 1611 Jahāngīr married Nūr Jahān, who during the remaining years of his reign dominated his policy and his fortunes. Her influence at first was for good; but later she involved the emperor

in conflicts with his son, Khurram (Shāh Jahān), and his famous general, Mahābat Khān, who in 1626 seized the emperor in his camp on the Jhelum. After making a spirited attempt to rescue him, the empress consented to share his brief captivity. Jahāngīr did not long survive his release. He died in 1627 at Bhimbar, and was buried at Shāhdara near Lahore. His widow raised a splendid mausoleum over his remains, and herself lived in retirement at Lahore for eighteen years after his death.

Shāh Jahān was proclaimed at Agra early in 1628, but his younger brother, Shahryār, had already set up his standard at Lahore. He was speedily overthrown by the energy of Asaf Khān, the father-in-law of the emperor, and the ill-starred enterprise terminated with the execution of the pretender and his principal adherents. During the last five years of Jahāngīr's reign, Lahore had been the capital of the empire; but Shāh Jahān determined to build for himself a new capital on the banks of the Jumna at Delhi. His reign was the most prosperous period of Mughal rule, a period of profound internal peace and immunity from foreign invasion; but it was, none the less, marked by military activity beyond the frontiers. Kandahār was seized in 1639, only to be lost again ten years later; and the great expeditions of 1652, commanded by the princes Aurangzeb and Dārā Shikoh, failed to recover it. The successes of the imperial army in Balkh and Badakhshān in 1644 were neutralized by the disastrous retreat conducted by Aurangzeb through the passes of the Hindu Kush, but the expedition against Baltistān in 1651 was crowned by the capture of Skārdo. A dangerous illness which prostrated the emperor in 1657 was the signal for the outbreak of strife among his sons. After his defeat near Agra, Dārā fled to the Punjab, trusting to his popularity with the people of the province to gain him adherents. In this he was not altogether disappointed; but the restless activity of his brother compelled him to fly, and in the following year he was captured and put to death at Delhi.

The reign of Aurangzeb dates from June, 1658, though his father survived in confinement at Agra till 1666. It was one long struggle against the powers of the South. In the Punjab the profound peace which the province had known under Shāh Jahān continued for half a century under his successor, broken only by the march of the imperial armies through the province in 1673-5 to crush the Afghān revolt, and by the insurrection of the Satnāmis of Nārnaul in 1676. The war with the Afghān tribes dragged on for two years, and was only brought to a close by a treacherous massacre at Peshāwar. The insurrection of the Satnāmis infected the Hindu population of Agra and Ajmer. Detachments of the imperial army were defeated, and the insurgents advanced on Delhi. A panic spread throughout the

army, and it was with difficulty that the soldiers could be brought to face the enemy. Confidence was restored by the personal exertions of the emperor, and a crushing defeat was inflicted on the insurgents. In the closing years of Aurangzeb's reign signs were already visible that the downfall of the empire was not far distant, and the century after his death in 1707 saw the rise of a new power in the Punjab.

This power was the Sikhs, originally a mere religious sect, founded by Bāba Nānak, who was born near Lahore in the latter half of the fifteenth century, and who died at Dera Nānak, on the Rāvi, in 1538. A full account of the sect will be found in Prinsep's *History of the Punjab* (2 vols., 1846) and Cunningham's *History of the Sikhs* (second edition, 1853), to which works the reader is referred for a complete or detailed narrative. Bāba Nānak was a disciple of Kabīr, and preached as a new religion a pure form of monotheism, eagerly accepted by the peasantry of his neighbourhood. He maintained that devotion was due to God, but that forms were immaterial, and that Hindu and Muhammadan worships were the same in the sight of the Deity. His tenets were handed down by a succession of Gurūs or spiritual leaders, under whom the new doctrine made steady but peaceful progress. Rām Dās, the fourth Gurū, obtained from Akbar a grant of land on the spot now occupied by the city of AMRITSAR, the metropolis of the Sikh faith. Here he dug a holy tank, and commenced the erection of a temple in its midst. His son and successor, Arjun Mal, completed the temple, and lived in great wealth and magnificence, besides widely increasing the numbers of his sect, and thus exciting the jealousy of the Mughal government. Becoming involved in a quarrel with the imperial governor of Lahore, Arjun was imprisoned in that city, where he died, his followers asserting that he had been cruelly put to death.

'This act of tyranny,' writes Elphinstone, 'changed the Sikhs from inoffensive quietists into fanatical warriors. They took up arms under Har Govind, the son of their martyred pontiff, who inspired them with his own spirit of revenge and of hatred to their oppressors. Being now open enemies of the government, the Sikhs were expelled from the neighbourhood of Lahore, which had hitherto been their seat, and were constrained to take refuge in the northern mountains. Notwithstanding dissensions which broke out among themselves, they continued their animosity to the Musalmāns, and confirmed their martial habits until the accession, in 1675, of Gurū Govind, the grandson of Har Govind, and the tenth spiritual chief from Nānak. This leader first conceived the idea of forming the Sikhs into a religious and military commonwealth, and executed his design with the systematic spirit of a Grecian lawgiver.'

But their numbers were inadequate to accomplish their plans of resistance and revenge. After a long struggle, Gurū Govind saw his

strongholds taken, his mother and his children massacred, and his followers slain, mutilated, or dispersed. He was himself murdered in 1708 by a private enemy at Nander in the Deccan. The severities of the Musalmāns only exalted the fanaticism of the Sikhs, and inspired a spirit of vengeance, which soon broke out into fury. Under Gurū Govind's principal disciple, Banda, who had been bred a religious ascetic, and who combined a most sanguinary disposition with bold and daring counsels, they broke from their retreat, and overran the east of the Punjab, committing unheard-of cruelties wherever they directed their steps. The mosques were destroyed and the Mullās killed; but the rage of the Sikhs was not restrained by any considerations of religion, or by any mercy for age or sex. Whole towns were massacred with wanton barbarity, and even the bodies of the dead were dug up and thrown out to the birds and beasts of prey. The principal scene of these atrocities was Sirhind, which the Sikhs occupied, after defeating the governor in a pitched battle; but the same horrors marked their route through the country eastward of the Sutlej and Jumna, into which they penetrated as far as Sahāranpur. They at length received a check from the local authorities, and retired to the country on the upper course of the Sutlej, between Ludhiāna and the mountains. This seems at that time to have been their principal seat; and it was well suited to their condition, as they had a near and easy retreat when forced to leave the open country. Their retirement on the present occasion was of no long continuance; and in their next incursions they ravaged the country as far as the neighbourhood of Lahore on the one side and of Delhi itself on the other.

The emperor, Bahādur Shāh, was compelled to return from the Deccan in order to proceed against the Sikhs in person. He shut them up in their hill fort at Daber, which he captured after a desperate siege; the leader Banda and a few of his principal followers succeeded by a desperate sally in effecting their escape to the mountains. The death of Bahādur Shāh in 1712 probably prevented the extermination of the sect. During the dissensions and confusion which followed that event the Sikhs were allowed to recruit their strength, and they again issued from their mountain fastnesses and ravaged the country. In 1716, however, Abdus Samad Khān, governor of Kashmīr, was despatched against them at the head of a large army by the emperor Farrukh Sīyar. He completely defeated the Sikhs in several actions, took Banda prisoner, and sent him to Delhi, where he was barbarously put to death along with several other of the Sikh chieftains. An active persecution ensued, and for some time afterwards history narrates little of the new sectaries.

In 1738 Nādir Shāh's invading host swept over the Punjab like a flooded river, defeated the Mughal army at Karnāl in 1739, and

sacked the imperial city of Delhi. Though Nādir retired from India in a few months with his plunder, he had given the death-blow to the weak and divided empire. The Sikhs once more gathered fresh courage to rebel; and though again defeated and massacred in large numbers, the religion gathered new strength from the blood of the martyrs. The next great disaster of the Sikhs was in 1762, when Ahmad Shāh Durrāni, the Afghān conqueror of the Marāthās at Pānīpat in the preceding year, routed their forces completely, and pursued them across the Sutlej. On his homeward march he destroyed the town of Amritsar, blew up the temple, filled the sacred tank with mud, and defiled the holy place by the slaughter of cows. But, true to their faith, the Sikhs rose once more as their conquerors withdrew, and they now initiated a final struggle which resulted in the secure establishment of their independence.

By this time the religion had come to present very different features from those of Bāba Nānak's peaceful theocracy. It had grown into a loose military organization, divided among several *misls* or confederacies, with a common meeting-place at the holy city of Amritsar. The Mughals had nominally ceded the Punjab to Ahmad Shāh; but the Durrāni kings never really extended their rule to the eastern portion, where the Sikhs established their authority not long after 1763. The Afghān revolution in 1809 facilitated the rise of Ranjīt Singh, a Sikh adventurer, who had obtained a grant of Lahore from Zamān Shāh, the Durrāni ruler of Kābul, in 1799. Gradually this able chieftain spread his power over the greater part of the Punjab, and even in 1808 attacked the small Sikh principalities on the east or left bank of the Sutlej. (*See* CIS-SUTLEJ STATES.) These sought the protection of the British, now masters of the North-Western Provinces with a protectorate over the Mughal emperor at Delhi; and an agreement was effected in 1809 by which Ranjīt Singh engaged to preserve friendship with the British Government, and not to encroach on the left bank of the Sutlej, on condition of his sovereignty being recognized over all his conquests north of that river, a treaty which he scrupulously respected till the close of his life. In 1818 Ranjīt Singh stormed Multān, and extended his dominions to the extreme south of the Punjab; and in the same year he crossed the Indus, and conquered Peshāwar, to which shortly after he added the Derajāt, as well as Kashmīr. He had thus succeeded during his own lifetime in building up a splendid power, embracing almost the whole of the present Province, together with the Native State of Kashmīr.

On his death in 1839, his son Kharak Singh succeeded to the throne of Lahore, but died, not without suspicion of poison, in the following year. A state of anarchy ensued, during which the Sikhs committed depredations on British territory, resulting in what is known as the first

Sikh War. The Sikh leaders having resolved on war, their army, 60,000 strong, with 150 guns, advanced towards the British frontier, and crossed the Sutlej in December, 1845. The details of the campaign are sufficiently known. On December 18 the first action was fought at Mūdki, in which the Sikhs attacked the troops in position, but were defeated with heavy loss. Three days afterwards followed the toughly contested battle of Ferozeshāh; on January 22, 1846, the Sikhs were again defeated at Alīwāl; and finally, on February 10, the campaign was ended by the capture of the Sikh entrenched position at Sobraon. The British army marched unopposed to Lahore, which was occupied on February 22, and terms of peace were dictated. These were, briefly, the cession in full sovereignty to the British Government of the territory lying between the Sutlej and the Beās rivers, and a war indemnity of 1½ millions sterling. As the Lahore Darbār was unable to pay the whole of this sum, or even to give satisfactory security for the payment of one million, the cession was arranged of all the hill country between the Beās and the Indus, including Kashmīr and Hazāra; arrangements were made for the payment of the remaining half-million of war indemnity, for the disbandment of the Lahore army, and its reorganization on a reduced scale. The other terms included the cession of the control of both banks of the Sutlej; the recognition of the independent sovereignty of Mahārājā Gulāb Singh of Jammu; a free passage through Sikh territory for British troops; and the establishment of a British Resident at Lahore. In addition, at the request of the Lahore Government, it was settled that a British force should remain at Lahore for a time to assist in the reconstitution of a satisfactory administration. Simultaneously, a treaty was executed with Mahārājā Gulāb Singh by which the English made over to him in sovereignty the Kashmīr territory ceded by the Lahore government, in consideration of a payment of three-quarters of a million sterling. Shortly afterwards difficulties arose regarding the transfer of Kashmīr, which the Sikh governor, instigated by Lāl Singh, the chief of the Lahore Darbār, resisted by force of arms. Lāl Singh was deposed and exiled to British India; and in December, 1846, a fresh treaty was concluded, by which the affairs of the State were to be carried on by a Council of Regency, under the direction and control of the British Resident, during the minority of the young Mahārājā Dalīp Singh.

For a time the work of reorganizing the shattered government of the country proceeded quietly and with every prospect of success. But besides many minor causes of discontent among the people, such as the withdrawal of the prohibition against the killing of kine, and the restored liberty of the much-hated and formerly persecuted Muhammadans, the villages were filled with the disbanded soldiery of the old Sikh army, who were only waiting for a signal and a leader to rise and

strike another blow for the power they had lost. At length, in April, 1848, the rebellion of the ex-Dīwān Mūlrāj at Multān, and the murder of two British officers in that city, roused a general revolt throughout the Punjab. Multān city was invested by hastily raised frontier levies, assisted afterwards by British troops under General Whish; the siege, however, had to be temporarily raised in September, owing to the rapid spread of disaffection among the Sikh troops. The two rebellious Sardārs, Chattar Singh and Sher Singh, invoked the aid of the Amīr of Kābul, Dost Muhammad, who responded by seizing Peshāwar, and sending an Afghān contingent to assist the Sikhs. In October, 1848, the British army, under Lord Gough, assumed the offensive, and crossed the Sutlej. Proceeding from Ferozepore across the Punjab at an angle to the Sikh line of march, it came up with Sher Singh at Rāmnagar, and there inflicted on him a severe check. The Sikh army, consisting of 30,000 men and 60 guns, made a stand at Chiliānwāla, where an indecisive and sanguinary battle was fought on January 13, 1849. Two or three days after the action, Sher Singh was joined by his father Chattar Singh, bringing with him Sikh reinforcements, and 1,000 Afghān horse. Lord Gough awaited the arrival of the column under General Whish (set free by the fall of Multān on January 28), and then followed up the Sikhs from Chiliānwāla to Gujrāt, where the last and decisive battle was fought on February 22, the Sikhs being totally defeated with the loss of 60 guns. The Afghān garrison of Peshāwar were chased back to their hills, the Amīr Dost Muhammad himself narrowly escaping capture. The remnants of the Sikh army and the rebel Sardārs surrendered at Rāwalpindi on March 14, and henceforth the entire Punjab became a Province of British India. The formal annexation was proclaimed at Lahore on March 29, 1849, on which day terms were offered to, and accepted by, the young Mahārājā Dalīp Singh, who received an annuity of £50,000 a year and resigned for himself, his heirs, and his successors, all right, title, and claim to the sovereignty of the Punjab, or to any sovereign power whatever. He resided till his death in England, where he purchased estates, married, and settled down as an English nobleman.

The Punjab, after being annexed in 1849, was governed by a Board of Administration. It was subsequently made a Chief Commissionership, the first Chief Commissioner being Sir John Lawrence, who afterwards became the first Lieutenant-Governor.

At the outbreak of the Mutiny in 1857 there were in the Punjab the following troops: Hindustānis, 35,000; Punjābi Irregulars, 13,000; Europeans, 10,000; there were also 9,000 military police. The Europeans consisted of twelve regiments, of whom no less than seven were either at Peshāwar or in the hills north of Ambāla, leaving only five regiments to hold the country from the Indus to the Sutlej. The news

of the massacre at Delhi reached Lahore on May 12. There had not been wanting premonitory signs that the Hindustāni sepoys were disaffected and likely to rise; and, accordingly, on May 13, 3,000 native troops were successfully disarmed at Mīān Mīr. At the same time European troops were thrown into the forts of Govindgarh and Phillaur, the first important as commanding Amritsar, the second as containing a large arsenal which subsequently supplied the munitions of war for the siege of Delhi. On May 14 the arsenal at Ferozepore was secured; the sepoys here mutinied on the following day, and escaped without punishment. On the 21st of the same month the 55th Native Infantry rose at Mardān and fled to independent territory; many were killed in pursuit, and the remainder were captured by the hillmen. On June 7 and 8 the native troops at Jullundur broke and escaped to Delhi. In the first week of July the sepoys at Jhelum and Siālkot mutinied; they were destroyed, as were the 26th Native Infantry, who mutinied at Peshāwar on August 28.

Simultaneous with the vigorous suppression of open mutiny, 13,000 sepoys were disarmed without resistance during June and July. While the Hindustāni troops were thus disposed of, the dispatch of reinforcements to Delhi, an object of paramount importance, proceeded without a break. About May 17 it had become apparent that the Punjab did not sympathize with the movement in Hindustān, and that a good spirit prevailed in the Punjābi troops. It was therefore safe to augment them; and eighteen new regiments were raised in the Province during the later months of the year. As these forces were being enrolled to supply the place of those who marched down to Delhi, the stream of reinforcements was steadily maintained. Four regiments from the European garrison of the Punjab formed the greater portion of the force that first marched upon Delhi. Next followed two wings of European regiments of infantry. Then a considerable force of native troops was dispatched, including the Guides, two regiments of Punjab cavalry, a body of Punjab horse, two regiments of Punjab infantry, and a body of 1,200 pioneers raised from the Mazbi Sikhs; 7,000 men, forming the contingent of the Cis-Sutlej chiefs of Patiāla, Jīnd, and Nābha, accompanied the regular troops to the siege. An irregular force of 1,000 men was also detached to clear the western part of the Delhi territory. Wagon trains were organized from Multān and Ferozepore via Ambāla to Delhi. Siege trains, treasure, stores, and transport animals were poured down from the Punjab for the besieging force. Finally, in August, one last effort had to be made to send reinforcements, in spite of the risk run in denuding the Province of Europeans and loyal troops. The need for aiding the force at Delhi was, however, imperative; it was therefore resolved to send Brigadier-General Nicholson with the movable

column and every European who could be spared. Two half-regiments of European infantry, the 52nd Foot, and three regiments of Punjab infantry were dispatched. These were followed by a siege train from Ferozepore, a wing of the 1st Baloch Regiment from Sind, and a contingent 2,000 strong from the Mahārājā of Kashmīr. There then remained only 4,500 Europeans (including sick) to hold the Punjab.

The crisis had now come. If Delhi were taken speedily, all was well; if otherwise, there would be a struggle for European dominion and existence in the Punjab itself. The next few weeks after the departure of Nicholson's column were weeks of anxious suspense, in which all eyes were turned to Delhi. Symptoms of the wavering faith of the people in the British power appeared in local outbreaks at Murree in the north, and in the wild and barren tracts south of Lahore, between the Rāvi and Sutlej. Both were, however, soon suppressed, and the fall of Delhi on September 14 put an end to all further cause for apprehension. The first sign that the mass of the inhabitants had regained confidence was that the Sikhs of the Mānjha, or the tract between the Rāvi and the Sutlej rivers, who had hitherto held aloof, came forward for enlistment in the new levies.

The loyal action of the chiefs had an important bearing on keeping the population steady during the crisis. The Rājā of Jīnd was actually the first man, European or native, who took the field against the mutineers; and his contingent collected supplies in advance for the British troops marching upon Delhi, besides rendering excellent service during the siege. The Rājās of Patiāla and Nābha also sent contingents for field service; and with the exception of the Nawāb of Bahāwalpur, who did not stir, every chief in the Punjab, so far as he could, aided the English in preserving order and in suppressing rebellion. Rewards in the shape of grants of territory were made to the chiefs of Patiāla, Jīnd, and Nābha, and a large *talukdāri* estate in Oudh was conferred upon the Rājā of Kapūrthala.

Since the Mutiny, the Punjab has made rapid progress in commercial and industrial wealth. In 1858 the Delhi territory lying on the right bank of the Jumna, together with the confiscated territory which had formerly belonged to the Nawābs of Jhajjar and Bahādurgarh, was transferred from the North-Western Provinces to the Punjab. The territory thus transferred included the present Districts of Delhi, Rohtak, and Gurgaon, almost the whole of Hissār, and portions of Karnāl and Ferozepore. The year after the suppression of the rebellion is remarkable for the commencement of the first line of railway in the Punjab, from Amritsar to Multān (February, 1859), and for the admission of water into the Bāri Doāb Canal. With the exception of punitive military expeditions against marauding hill tribes, the history of the Province has been one of uninterrupted progress.

Canals have spread irrigation over its thirsty fields; railways have opened new means of communication for its surplus produce; and British superintendence, together with the security afforded by a firm rule, has developed its resources with astonishing rapidity. In October, 1901, the North-West Frontier Province was formed. It comprises all the territories formerly administered or controlled by the Lieutenant-Governor of the Punjab which lie to the west of the Indus, except the trans-Indus portion of the Isa Khel *tahsīl* of Miānwāli District, the District of Dera Ghāzi Khān, and the territory occupied by the protected tribes on its western border and known as the Baloch Trans-frontier. It also includes the District of Hazāra, east of the Indus.

Though the Punjab was the earliest seat of Vedic civilization, archaeology has hitherto failed to discover any monuments or traces of the epic period. Not a single relic of the Macedonian invasion has been brought to light, and, as in the rest of India, the oldest archaeological monuments in the Punjab are the Asoka inscriptions. Of these, two were inscribed on pillars which now stand at Delhi, where they were re-erected by Fīroz Shāh in about 1362, one having been originally erected at Topra at the foot of the Siwālik Hills in the Ambāla District of this Province, and the other near Meerut in the United Provinces. Both the inscriptions are in the ancient Brāhmī script, which is found in all the Asoka inscriptions excepting those at Shāhbāzgarhi and MĀNSEHRA in the North-West Frontier Province. The vast ruins of Takshasilā (Taxila), now known as Shāhdheri, in Rāwalpindi District, remain to show the extent of the capital of the great Mauryan province which comprised the modern Punjab and the North-West Frontier Province. South-east of Takshasilā is the tope of Manikyāla, identified by General Sir Alexander Cunningham as one of the four great *stūpas* mentioned by the Chinese pilgrim Fa Hian. It is the largest *stūpa* in Northern India, and is believed to have been built to commemorate the sacrifice of the Bodhisattva, who gave his body to feed a starving tigress. Near this great *stūpa* is a smaller one, which contained a slab with a Kharoshthī inscription recording its erection during the reign of Kanishka early in the Christian era.

In Kāngra District a few remains testify to the prevalence of Buddhism in the Himālayan valleys of the north-east Punjab. Close to PATHYĀR, 6 miles south-east of Kanhiāra (? Krishna-vihāra), a votive inscription of a primitive type in both Brāhmī and Kharoshthī has been found; and at KANHIĀRA itself an inscription, also in both characters, records the foundation of a monastery, and indicates the existence of Buddhism in that locality during the second century A.D. A much later inscription at CHARI contained the formula of the Buddhist faith. The existence of Buddhism in the south-west of the Punjab is demonstrated by the ruined *stūpa* and inscription at

Sui Vehār in the modern State of Bahāwalpur, and by a similar ruin at Naushahra, 100 miles south-west of Sui Vehār.

The Punjab can show but few Hindu antiquities. To some extent this is due to the destructive action of the great rivers on whose banks the ancient cities lay, but the iconoclasm of the Moslem invaders was even more destructive. Thus the Arabic inscriptions on the Jāma Masjid or Kuwwat-ul-Islām at Delhi record that material for the building was obtained by demolishing twenty-seven idol-houses of the Hindus, and their profusely carved but partially defaced pillars are still to be seen in its colonnades. But the early Muhammadans often preserved the ancient Hindu monuments which were free from the taint of idolatry, for in this very mosque stands the iron pillar erected by Rājā Chandra, probably Chandra Gupta II, an early king of the Gupta dynasty (A.D. 375–413). The Inner Himālayas, however, mostly escaped the Muhammadan inroads, and some ancient Hindu shrines have survived; but owing to the style of construction prevalent in the hills, in which wood enters largely, the remains are few and not of very great antiquity. Stone temples exist at Baijnāth, where there is an inscription of 1239, and at Nūrpur. Those in the Kāngra fort were destroyed by the earthquake of April, 1905. In Kulū the stone *lingam* temple at Bajaura contains some sculptures of great age, and the temple of Parasu Rāma at Nirmand on the Sutlej possesses a copper-plate of Rājā Samudra Sena of unknown date. The temple of Hidimbā Devī at Manāli, which bears an inscription cut among profuse wood-carving, recording its erection in the sixteenth century, and that at Nagar have conical wooden roofs presenting a type peculiar to the hills. All these places lie in Kāngra District. In the Chamba State the Devī temples at Barmaur and Chitrādi date from the eighth century A.D. They are of a different style from the two Kulū temples last mentioned, and their wood-carving is superior to that found at Manāli. The temple at Trīloknāth in the Mandī State contains a Sāradā inscription. The temples at Malot and Kathwar in the Salt Range are built in the Kashmīr style.

The Muhammadan period inaugurated a new architectural era, nowhere in India better exemplified than in the Punjab. The early Pathān period (1193–1320) is represented by the Kuwwat-ul-Islām, the Kutb Minār, the tomb of Altamsh, the gateway of Alā-ud-dīn, and the Jamāat-khāna mosque at Delhi. Another noteworthy monument is the tomb of Altamsh's eldest son at Mālikpur. The Tughlak or middle Pathān period (1320–1414) is represented by the vast ruins of Tughlakābād and of Fīrozābād near Delhi, with the Kalān mosque and other monuments in and around that city. The later Pathān

of Sher Shāh at Indrapat, with other monuments round Delhi. The Mughals revived the splendours of Muhammadan architecture. At Delhi Akbar built the tomb of Humāyūn and the tomb of Azam Khān, which dates from 1566, in which year Adham Khān's tomb at Mihrauli was also erected. Jahāngīr's reign saw the construction of the Nīlā Burj (in 1624) and the mausoleum of the Khān-i-Khānān. He also built the first of the three Moti Masjids or 'pearl mosques' in the Punjab at Lahore in 1617–8. Shāh Jahān founded the modern city of Delhi and called it Shāhjahānābād. In it he erected the Red Fort, in which were built the Dīwān-i-ām and the matchless Dīwān-i-khās. Opposite the Red Fort rose the imposing Jāma Masjid, and in the midst of the city the smaller Fatehpuri and Sirhindi mosques. Wazīr Khān, Shāh Jahān's minister, built the mosque still known by his name in LAHORE, and his engineer Alī Mardān made the Shālimār garden near that city. The zealot Aurangzeb added little to the architectural monuments of his predecessors, but his reign produced the great Bādshāhi mosque at Lahore and the beautiful Moti Masjid in the Red Fort at Delhi. His daughter built the Zīnat-ul-masājid or 'ornament of mosques' at Delhi. After Aurangzeb's death ensued a period of decay, which produced the Moti Masjid at Mihrauli, the Fakhr-ul-masājid, and the tomb of Safdar Jang at Delhi. A feature of this period is the mosque with gilded domes, hence called 'Sunahri,' of which type one was built at Lahore and three at Delhi.

The south-west of the Punjab has developed an architectural style of its own, distinguished by a blue and white tile decoration, quite distinct from the *kāshi* tile-work of Lahore and Delhi. This style is exemplified by the tomb of the saint Rukn-ud-dīn at MULTĀN, and that of the Nāhar ruler, Tāhir Khān, at SĪTPUR. The tomb of the famous saint Bahā-ul-Hakk, the grandfather of Rukn-ud-dīn, dates from the thirteenth century; but it was injured at the siege of Multān in 1848, and has been entirely renewed. Lastly may be mentioned the Jahāzi Mahal with its remarkable frescoes at SHUJĀBĀD, built by Muzaffar Khān in 1808.

Population.

The total population of the Punjab in 1901 was 24,754,737, including the Baloch tribes on the border of Dera Ghāzi Khān District. The density of the population was 185 persons per square mile, as compared with 174 in 1891 and 158 in 1881. In British territory alone it is 209, compared with 121 in the Native States. The density is greatest in the natural division called the Indo-Gangetic Plain West, where it rises to 314 persons per square mile, and in the Districts of Jullundur and Amritsar in this area to 641 and 639 respectively. The sub-Himālayan tracts, with 300 persons per square mile, are nearly as densely populated, Siālkot rising to 544 and thus ranking as the third most densely populated District in the

Province. In marked contrast to these two areas are the north-west dry area with 96, and the Himālayan with 77 persons per square mile. In the latter, Chamba State, with only 40 persons per square mile, is the most sparsely inhabited tract in the Province.

The Punjab contained, in 1901, three cities—DELHI, LAHORE, and AMRITSAR—with more than 100,000 inhabitants, 53 towns with more than 10,000, and 99 with more than 5,000. The principal towns are: RĀWALPINDI (population, 87,688), MULTĀN (87,394), AMBĀLA (78,638), JULLUNDUR (67,735), SIĀLKOT (57,956), and PATIĀLA (53,545). All of these include large cantonments. Villages numbered 43,660, of which 14,127 contained 500 inhabitants or more. In the Punjab plains the village is as a rule a compact group of dwellings; but in the south-west and the hill tracts it comprises a number of scattered settlements or hamlets, grouped together under the charge of a single headman for fiscal and administrative convenience.

During the ten years ending 1891 the total population of the Punjab rose from 21,136,177 to 23,272,623, an increase of 10·1 per cent. In the next decade the rate of increase was not so rapid, owing partly to the famines of that period, and partly to emigration to other Provinces in India and beyond the seas. During the twenty years since 1881 the population has risen by 17 per cent. The enumerations of 1854 and 1868 were not extended to the Native States, and even in British Districts were imperfect. Since 1854, however, the increase of the population in British territory may be safely estimated to exceed 45 per cent. Migration plays an important part in the movement of the population. The Punjābi is free from that disinclination to emigrate which is so strongly felt in other parts of India; and Uganda, Hong-Kong, the Straits Settlements, Borneo, and other countries attract large numbers for military and other service. More than 25,000 Punjābis are believed to have been resident in Uganda in 1901; and though no precise estimate of the total number of emigrants out of India can be made, it must have largely exceeded the number of immigrants. According to the Census the emigrants to the rest of India numbered more than 500,000, exceeding the immigrants by over 200,000. Immigration is mainly from the contiguous United Provinces and Rājputāna, but Kashmīr also supplies a large number. Emigration is mainly to the same territories, but service in the army and military police takes more than 20,000 persons to Burma and many to other distant places. Within the Province the foundation of the CHENĀB COLONY has led to an extensive movement of the population from the congested submontane Districts to the virgin soil of the new colony.

In 1891 the mean age of the population was 22·8 years for males

European standards, this mean is low; but it is higher than that of any other Province in India, and, allowing for the general inaccuracy of the age-return, indicates a longevity above the Indian average. It is held luckier to understate rather than overstate one's age in the Punjab; and the number of children in proportion to adults is high, as the following table, which gives the distribution over five main age-periods of every 20,000 of the population, shows:—

	1891. (Old Province.)	1901. (New Province.)
0–10	6,131	5,306
10–15	1,961	2,330
15–25	3,974	3,402
25–40	4,561	4,478
40 and over	3,373	4,484
Total	20,000	20,000

The discrepancies in this return are due to the fact that in 1891 the current year of age was returned, whereas in 1901 the completed year was recorded, as it was in 1881; and comparisons with the figures of that year show that the mean age of males was the same in 1901 as in 1881, while that of females had only risen by a tenth of a year. The figures, however, are affected by migration and various other factors, so that no conclusions of value can be drawn from them. Famine, causing a diminution in the number of children, had in 1901 appreciably affected the figures in the Districts of Hissār, Rohtak, and Jhelum.

In rural areas the village watchman is entrusted, under the supervision of the village headman and the higher revenue officials, with the duty of registering births and deaths. Though almost invariably illiterate, this agency is so closely supervised in British Districts that the registration is, in the mass, exceedingly accurate, and its results are in close agreement with the census returns. In municipalities and cantonments registration is in the hands of the local authorities and is often defective. The system of compilation is anomalous. The cantonment returns are excluded from those of the Province altogether, as are those of such Native States as register births and deaths. Municipal returns go direct to the Civil Surgeon, but those from rural areas are compiled by the Superintendent of police, and forwarded by him to the Civil Surgeon, who sends both the municipal and rural returns to the Sanitary Commissioner. In each Division the inspector of vaccination is also charged with the duty of inspecting the birth and death registers, and his supervision has greatly improved the accuracy of the returns. The following table shows the principal vital statistics for the Province:—

Year.	Population under registration.	Ratio of registered births per 1,000.	Ratio of registered deaths per 1,000.	Deaths per 1,000 from			
				Cholera.	Small-pox.	Fevers.	Bowel complaints.
1881 .	17,251,627	38·69	28·37	0·30	0·20	19·39	0·95
1891 .	18,763,581	35·04	29·43	0·33	0·14	21·72	0·62
1901 .	20,108,690	35·43	36·13	0·01	0·31	25·26	0·73
1904 .	20,108,690	41·48	49·06	0·04	0·05	18·82	0·60

In the first three quinquennia of the period from 1881 to 1901 the birth-rate averaged a little over 39 per 1,000, but in the last quinquennium it rose to 43, pointing to better registration. The fewest births occur in May, after which the rate rises gradually till July and is high in August and September, reaching its zenith in October. It then falls gradually until it drops suddenly in March. The mean death-rate for the five years ending 1900 was 33·7 per 1,000; but it rose in 1901 to 36, in 1902 to 44, and in 1903 to 49 per 1,000, plague alone accounting for 10·22 per 1,000, or more than a fifth of the deaths in the last year. The unhealthy season in the Punjab is the autumn, and the deaths in October corresponded to an average annual rate of 51 per 1,000 in the ten years 1891–1900. March and April are by far the healthiest months. The number of deaths from fever fluctuates greatly from year to year, according as the autumnal months are unhealthy or the reverse. The deaths from cholera, small-pox, and bowel complaints are relatively very few. Under the last head only deaths from dysentery and diarrhoea have been registered since 1901.

In so far as specific infirmities are concerned, the figures of the latest Census showed a marked improvement on those of 1881 only 421 persons in every 100,000 of the population being returned as infirm, compared with 743 in the latter year. Lepers now number only 19 in every 100,000 as compared with 26 in 1891 and 45 in 1881; and the blind 305, compared with 349 in 1891 and 528 in 1881. Insanity shows an apparent increase to 35 per 100,000 in 1901 from 29 in 1891; but this infirmity is often confused with deaf-mutism, which shows a marked decrease to 80 per 100,000 in 1901 from 97 in 1891.

The disease returned in the Punjab as most fatal to life is fever. In this malady the people vaguely include most disorders accompanied by abnormally high temperature; but making all due allowances for this fact, malarial fever is unquestionably the most fatal disease throughout the Province. The death-rate fluctuates greatly. In 1892 the rate was 34·8 per 1,000, and 33·4 in 1900; but in 1899 it was only 18·6. In the two former years heavy monsoon rains caused extensive

floods and an unhealthy autumn. Malarial fever is most prevalent in the riverain valleys. This is especially marked in the tract west of the Jumna, which is naturally waterlogged, and where the faulty alignment of the old Western Jumna Canal used to obstruct the natural drainage lines. Much has been done by realigning the canal and constructing drainage channels to remedy this evil, but the tract remains the most unhealthy in the Province.

Cholera is hardly endemic, though a year seldom passes without an outbreak, and occasionally a local epidemic. Epidemic cholera caused 65,000 deaths in 1892 and 25,000 in 1900. Small-pox is endemic, but owing to the wide extension of vaccination it is not very fatal to life, the mortality during the ten years ending 1903 never having exceeded 3 per 1,000. Vaccination is compulsory only in twenty-three of the more advanced towns, and small-pox is most fatal in towns where it is not enforced.

The first outbreak of plague occurred in October, 1897, in a village of Jullundur District, but infection had probably been imported from Hardwār in the previous May. For three years the disease was almost entirely confined to the adjacent parts of Jullundur and Hoshiārpur Districts, but in November, 1900, it broke out in Gurdāspur and soon spread to the neighbouring District of Siālkot. In 1901 outbreaks occurred in several Districts; since then the disease has spread widely, and the Province has never been completely free from it. The number of deaths was comparatively small till 1901, when 20,998 were recorded. In the following year mortality increased more than tenfold, and the epidemic still continues. The deaths from plague in 1905 numbered 390,233, or 15·8 per 1,000 of the population. The usual measures have been adopted for dealing with outbreaks of plague and with the object of preventing its spread, including the isolation of plague patients and the segregation of persons who had been exposed to infection, the evacuation of infected houses and villages, and the disinfection of houses and effects. Medical treatment and anti-plague inoculation have always been freely offered; but the people have usually preferred native medicines, and the attempts which have been made to eradicate or diminish plague by means of inoculation have not proved successful. Until May, 1901, most of the precautions, with the exception of medical treatment and inoculation, were compulsory; but since then compulsion has been gradually abandoned, and is now chiefly restricted to the reporting of plague occurrences, and the inspection or detention of persons travelling either by road or railway to certain hill stations.

Judged by English standards infant mortality is extremely high, especially in the case of girls. This will be clear from the following table:—

Year.	Infant population in 1901.		Number of deaths under one year.		Deaths per 1,000 of infant population.		Number of births registered.		Deaths per 1,000 registered births.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1901 1902 1903 1904	401,640	372,471	91,894 107,832 117,891 97,610	88,058 101,216 110,782 90,832	270 316 346 286	379 321 351 288	373,466 461,952 452,622 436,678	339,067 418,525 410,240 397,371	246 233 260 223	260 242 270 229

The births registered show a marked excess of male births, 111 boys being born to every 100 girls. This initial deficiency in the number of females is accentuated, especially in the first year of life, by the heavy mortality among girls and women up to the age of 40. Of the 24,754,737 persons enumerated in 1901, 13,552,514 were males and 11,402,223 females, so that 53·9 per cent. of the population were males and 46·1 per cent. females. In other words, for every 1,000 males there were 854 females in 1901, compared with 851 in 1891 and 845 in 1881. These figures show that the number of females in the Punjab is increasing more rapidly than the number of males, though improved enumeration probably accounts to some extent for the higher ratios of 1891 and 1901. The proportion of females in the Punjab as a whole is probably not affected by migration. In different parts of the Province the ratio varies, being lowest in the central Districts and highest in the Himālayan and submontane. These variations are not explicable by differences in the position of women. The Sikhs, whose women are comparatively well educated and enjoy more liberty than those of either Muhammadans or Hindus, return a very low ratio of females, the figures for 1901 being Sikhs 778, Hindus 844, and Muhammadans 877 per 1,000 males.

Among Muhammadans marriage is a civil contract. Among Hindus, Sikhs, and Jains it is in theory a sacrament, indissoluble save by death, and not even by death as far as the wife is concerned. But practice does not always follow precept; and among the lower Hindu and Sikh castes remarriage (*karewa*) is allowed, while in the Himālayas women are sold from hand to hand, and a system of temporary marriage prevails. On the other hand, the prejudice against widow marriage is almost as strong among Muhammadans of the superior classes as it is among orthodox Hindus. All castes view marriage as desirable for a boy and indispensable for a girl, an unmarried maiden who has attained puberty being a social stigma on her family, especially among the Rājputs. Betrothal is, as a rule, arranged at a very early age, and the wedding takes place while the bride is still a child, though she does not go to live with her husband till a later period. Infant marriage is, however, by no means universal, and 4·5 per cent. of the girls and 26 per cent. of the boys over fifteen are

unmarried. Early marriages are commonest among Hindus and in the east of the Province. The ceremonies connected with marriage are of infinite variety, the wedding especially being made an occasion for much costly hospitality and display. In general, Hindus and Sikhs observe the rule of exogamy which forbids marriage within the tribe, and that of endogamy which permits it only within the caste; but a third social rule, which has been called the law of hypergamy, also exists. By this a father must bestow his daughter on a husband of higher social status than his own, though he may seek a bride for his son in a lower grade. This rule renders it difficult and costly for the middle classes to find husbands for their daughters, or brides for their sons, as the lower grades have no scruple in exacting money for a girl. Among the Hindu agriculturists in the extreme east of the Province, the seven circuits round the sacred fire, prescribed by Hindu law, form the essential part of the marriage ritual, and the strict Hindus of the towns everywhere observe the same usage. Farther west among the agriculturists the number is reduced to four, while in the south-western Districts the important part of the ceremony is the *sir mel* or joining of the heads of the parties. The Muhammadan form of marriage, simple in itself, has almost everywhere been coloured by the Hindu ritual.

The following table gives statistics of civil condition as recorded in 1891 and 1901:—

Civil condition.	1891.			1901.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
Unmarried	10,397,033	6,516,598	3,880,435	11,241,255	7,027,895	4,213,360
Married .	10,547,329	5,237,107	5,310,222	11,062,125	5,459,012	5,603,113
Widowed .	2,328,261	818,729	1,509,532	2,427,270	852,148	1,575,122

Polygamy is not at all common, and is largely a question of means. Among Hindus and Sikhs only 6 per 1,000 of the married males have more than one wife, and among Muhammadans only 11. Many of the agricultural and menial castes allow the marriage of widows, preferably to the brother of the deceased husband; and it is among them that polygamy is commonest. It is rare among high-caste Hindus, who do not recognize remarriage. The ceremonies of re-marriage are much simpler than those of marriage, and the woman never acquires the status she had in the house of her first husband, though the children of the second marriage are regarded as legitimate. Avowed polyandry is confined to the Himālayan tracts, though the practice is not unknown among some socially inferior castes in the plains. In the hills it usually exists in the Tibetan form, in which the husbands are all brothers. Indications of succession through

females among the polyandrous tribes are few and obscure, and the general rule is that sons succeed as the children of the brotherhood which owns their mother. Divorce is not common, even among Muhammadans, though their law recognizes a husband's right to put away his wife without assigning a reason. Among the Hindu agricultural tribes of the plains it is extremely rare, though the custom is not unknown among the inferior castes and among the Jats of the central Districts. It is only in the Eastern Himālayas, within the limits of Kāngra and Simla Districts and the Hill States, where the marriage tie is notoriously loose, that the power of divorce belongs by custom to the wife as well as to the husband. The joint-family system of Hindu law is almost unknown to the peasantry of the Province. It prevails only among the Brāhmans and the clerical and commercial classes, and even among them it hardly exists outside the towns of the Delhi Division. Among the agricultural tribes of the plains, sons by different mothers usually inherit in equal shares; but the *chundawand* rule, by which they inherit *per stirpes*, is not uncommon among both Hindus and Muhammadans, especially in the centre and west of the Province.

With the exception of Tibeto-Burman, spoken in its pure form only in the Himālayan canton of Spiti and in a debased form in Lāhul and Upper Kanāwār, the vernaculars of the Punjab belong entirely to the Aryan family of languages. Of this family the Indian branch greatly predominates, the Irānian being represented only by 52,837 persons speaking Pashtū, 40,520 speaking Baluchī, and 3,074 speaking Persian. Pashtū is confined to the Pathān tribes settled in Attock District and in the Isā Khel *tahsīl* of Miānwāli on the banks of the Indus, and to Pathān immigrants. Baluchī is virtually confined to Dera Ghāzi Khān District and the adjacent State of Bahāwalpur. Persian is spoken only by immigrant families and refugees from Persia and Afghānistān.

Western Punjābi is spoken in the Indus valley and east of it as far as the valley of the Chenāb in Gujrānwāla, whence its boundary is a line through Montgomery District and the State of Bahāwalpur. East of it Eastern Punjābi is spoken as far as the meridian passing through Sirhind. East again of that line Western Hindī is the dominant speech. These languages are divided into numerous dialects. The Western Punjābi (also called Jatkī, 'the Jats' speech,' and Multānī) comprises the Hindko, Pothwārī, Chibhālī, Dhūndī, Ghebī, and Awānkārī. Eastern Punjābi has two main dialects: the standard of the Mānjha, or central part of the Bāri Doāb, spoken round Amritsar; and that of the Mālwā, the tract south of the Sutlej. Western Hindī comprises Hariānī (the dialect of Hariāna), Bāngarū (that of the Bāngar), Jātu (the Jāt speech), and Ahīrwātī (the Ahīr

speech). To these three languages must be added the maze of Sanskritic dialects spoken in the hills, and hence called generically Pahārī. These resemble Rājasthānī rather than Punjābi, and merge into the Tibeto-Burman in Lāhul and Kanāwār. The Gūjarī, or Gujar speech, likewise deserves mention as a tongue spoken in the Himālayas, and also closely resembling Rājasthānī.

The following table shows the numbers returned in 1901 as speaking the chief languages:—

Western Punjābi	2,755,463
Punjābi	15,346,175
Rājasthānī	603,747
Western Hindī	4,164,373
Western Pahārī	1,554,072

As an institution, caste plays a far less important part in the social life of the people than in other parts of India. Its bonds are stronger in the east than in the west, and generally in the towns than in the villages, so that in the rural areas of the Western Punjab society is organized on a tribal basis, and caste hardly exists. Ethnically, if the Buddhists of the Himālayan tracts of Lāhul, Spiti, and Kanāwār be excluded, the mass of the population is Aryan, other elements, such as the Mongolian and the Semitic (Saiyids, Kureshis, and other sacred Muhammadan tribes), having by intermarriage with Indian converts to Islām lost nearly all traces of their foreign origin. Socially the landed classes stand high, and of these the Jats (4,942,000) are the most important. The Jat, or Jāt as he is termed in the south-east of the Province, is essentially a landholder (*zamīndār*), and when asked his caste usually replies 'Jat *zamīndār*.' The Jats are divided into numerous tribes and septs, and many of these hold considerable areas which are divided among village communities. By religion they are essentially Hindus, 1,595,000 being so returned in 1901; and they also comprise the great mass of the Sikhs, 1,390,000 being of that creed. The Sikh Jats are mainly confined to the central Districts of the Punjab. Large numbers of Jats have from time to time been converted to Islām, and the Muhammadan Jats number 1,957,000. As cultivators the Hindu or Sikh Jats rank higher than any other class in the Province, and they make enterprising colonists and excellent soldiers, the Sikh holding a marked pre-eminence in these respects. The Muhammadan Jat lacks the energy of his Hindu and Sikh kinsman, but he is not far behind him as a cultivator. Next in importance are the Rājputs (1,798,000). The majority of them are Muhammadans (1,347,000). They do not rank high as cultivators, but furnish many recruits to the Indian army under the general designation of Punjābi Muhammadans. The Hindu Rājputs are found mainly in the north-east corner of the Province, and in the

Himālayan and submontane tracts, the Rājput tribes of the plains having for the most part accepted Islām. As a body the Rājputs stand higher than the Jats in the social system, and this has prevented their adherence to the levelling doctrines of Sikhism. Below these castes, both socially and numerically, stand the Muhammadan Arains (1,007,000), the Hindu and Sikh Sainis (127,000), and the Kambohs (174,000), who live by *petite culture* and rarely enlist as soldiers. In the south-east of the Province the Ahīrs (205,000) hold a position little if at all inferior to the Jats. In the Himālayas of the North-East Punjab, the Kanets (390,000) and Ghiraths (170,000) form great cultivating classes under Rājput overlords.

In the north-west the Gakhars (26,000), Khokhars (108,000), and Awāns (421,000), and farther west and south the Pathāns (264,000), take the position held by Rājputs elsewhere. In the south-west, especially in Dera Ghāzi Khān District west of the Indus, the Baloch (468,000) form a dominant race of undoubted Irānian descent. Essentially pastoral tribes are the Gūjars, or cowherds (632,000), found mainly in the Lower Himālayas, and the Gaddis, or shepherds (26,000), in the State of Chamba and Kāngra District.

The trading castes in the villages occupy a lower position than the landowning classes, but in the towns they rank higher. The most important are the Baniās (452,000) in the south-east, the Khattrīs (436,000) in the centre and north-west, and the Aroras (653,000) in the south-west. All these are Hindus or, rarely, Sikhs. The principal Muhammadan trading classes are the Shaikhs (321,000) and Khojas (99,000). Attached to these classes by a system of clientship, which is a curious combination of social dependence and spiritual authority, are the various priestly castes, the Brāhmans (1,112,000) ministering to Hindus, and the Saiyids (238,000) to Muhammadans. Both these classes, however, often follow secular occupations, or combine them with religious functions; and similar functions are exercised by countless other religious tribes and orders.

The ethnical type in the Punjab is distinctly Aryan, there being few traces of aboriginal or foreign blood, if the Tibetan element in the extreme north-east be excluded. The typical Punjābi is tall, spare but muscular, broad-shouldered, with full dark eyes and an ample beard. The hair is invariably black, but the complexion varies from a deep olive-brown to wheat-coloured. As a rule the lower classes are darker than the upper, and the complexion is fairer in the north-west than in the south-east. The Jats of the Mānjha and Mālwā exhibit a splendid physique, and the peasantry of the plains are generally a fine people; but in the riverain valleys there is a marked falling-off, and in the south-east of the Province the type approximates to that of Hindustān. In marked contrast to the plains

people are those of the Himālayas. Among these the higher or Rājput class is slight, high-bred, and clean-limbed, but sometimes over-refined, while owing to immorality the lower classes are often weakly and under-sized. Nothing is more striking than the influence of hereditary occupation and town life on physique; and the urban and trading populations are markedly inferior physically, though not intellectually, to the peasantry.

The Punjab by religion is more Muhammadan than Hindu. Of the total population enumerated in 1901, 12,183,345 persons, or 49 per cent., were Muhammadans. In the west and in the submontane tracts Islām is the dominant religion, its followers forming four-fifths of the population in the north-west dry area; but the Hindus are more numerous in the Indo-Gangetic Plain, and in the Himālayas they form 95 per cent. of the population. In the south-west, Multān and Uch were the earliest strongholds of the Moslem faith, and the population is deeply imbued with Muhammadan ideas, Hinduism being confined to the trading, landless castes, who are socially despised by their Muhammadan neighbours. The early Sultāns made Delhi a great centre of Muhammadan influence, but they and their successors appear to have left the Hindus of the Punjab unmolested in religious matters until the Mughal empire was firmly established. Akbar's policy of religious toleration lessened the gulf between the two creeds, but many Muhammadan tribes ascribe their conversion to the zeal of Aurangzeb. Islām in the Punjab is as a rule free from fanaticism, but among the more ignorant classes it has retained many Hindu ideas and superstitions. Though the great mass of its followers profess the orthodox Sunni creed, the reverence paid to Saiyids as descendants of Alī, the Prophet's son-in-law, is unusually great; and popularly Islām consists in the abandonment of many Hindu usages and the substitution of a Muhammadan saint's shrine for a Hindu temple. A very important factor in Muhammadan religious life is the Sūfi influence which, originating in Persia, was brought into the Punjab by the early Sultāns of Ghor. Its first great exponent was the saint Kutb-ud-dīn Bakhtiyār, in whose honour the Kutb Minār at Delhi was erected. His disciple Bāba Farīd-ud-dīn, Shakar-ganj, of Pākpattan in Montgomery District, is perhaps the most widely reverenced saint in the Punjab; and the shrine of his disciple Khwāja Nizām-ud-dīn, Aulia, near Delhi, is also a place of great sanctity. Spiritual descendants of these saints founded shrines at Mahārān in the Bahāwalpur State, at Taunsa Sharīf in Dera Ghāzi Khān District, and elsewhere. Thus the Province is studded with Sūfi shrines.

Hinduism in the Punjab is a singularly comprehensive creed. As the Province can boast no great centres of Hindu thought or learning, the Punjābi Hindu looks to Hardwār on the Ganges as the centre

of his faith. But Hardwār is accessible only to the eastern Districts, so elsewhere pilgrimages are made to countless minor temples and shrines, even those of Muhammadan saints. Vishnu is worshipped chiefly by the Baniās of the south-east and by the Rājputs, but Sivdiwālas or temples to Siva are nearly as common as Thākurdwāras or temples of Vishnu (Thākur). Far more popular than these are the widely spread cults of Gūga, the snake-god, and Sakhi Sarwar, the benevolent fertilizing earth-god, whose shrine in Dera Ghāzi Khān is the object of regularly organized pilgrimages. Gūga's legend also makes him a Rājput prince converted to Islām, and Sakhi Sarwar has been metamorphosed into a Muhammadan saint. There are countless minor cults, such as that of Sītlā, the 'cool one,' the small-pox goddess, and those of the *siddhs* or 'pure ones.' Ancestor-worship is very common among the Jats.

In the Himālayas Vishnu and Siva have many devotees, the Rājputs especially worshipping the former; but underlying these orthodox cults are those of the innumerable *deotās* (gods or spirits), *devīs* (goddesses), and *bīrs* (heroes), which are probably more ancient than Hinduism. The principal religious orders are the Sanyāsis and Jogis, who follow in theory the philosophical system of Sankarāchārya and Pātanjali. There are also Muhammadan Jogis, whose mysticism has much in common with the practices of the Hindu ascetics. The Bairāgis, a Vaishnava order founded by Rāmānand in the fourteenth century, are likewise numerous.

The Arya Samāj was founded by Pandit Dayānand Saraswati, a Brāhman of Kāthiāwār, about 1875. During his lifetime the doctrine spread rapidly; but since his death in 1883, the growth of the Samāj has been comparatively slow, and in 1901 only 9,105 males over 15 returned themselves as Aryas. The movement has been well described as being 'primarily the outcome of the solvent action of natural science on modern Hinduism.' The Samāj finds its sole revelation in the Vedas, which, rightly interpreted, prove that those who were inspired to write them were acquainted with the truths which modern science is slowly rediscovering. It attaches no merit to pilgrimages or to most of the rites of popular Hinduism. The liberal social programme of the Aryas is the outcome of their religious views, and includes the spread of education, the remarriage of widows, and the raising of the age for marriage. They are drawn, as a rule, from the best-educated classes of the community, Khattrīs, Aroras, and Brāhmans; and the doctrines they preach have met with acceptance chiefly in the progressive tracts north and east of the capital. At Lahore they maintain a college. Since 1893 the Samāj has been divided into two parties. The cause of the schism was the question of the lawfulness of meat as an article of diet. Those in favour

of it are known as the 'cultured' or 'college' party, and those against it as the *mahātma* party.

Religious architecture still maintains the tradition of each sect or community, with few deviations from the old plans which were designed mainly with a view to the needs of each religion. Ablution is an essential feature of every sect, so that a tank of water, with other necessary facilities, is found in a prominent position in all buildings. Mosques, now usually built of brick, consist of an open courtyard, with the *mihrāb* on the west, surmounted by a dome flanked with *minārs* or pillars. The Hindus enclose their temples in a walled courtyard, containing the shrine for the deity to which the temple is dedicated. Over this is a pyramidal tower, surmounted by a metal finial shaped to represent the emblem of the divinity enshrined. The temples of the Sikhs are usually designed on an orthodox square plan consisting of nine parts, known as the *naukara*. The general arrangement is a courtyard, in which is situated a tank of water for washing and a central open construction (*bāradari*) for the reading of the 'Granth.' Over this is a dome, which may be distinguished from that of a mosque by being generally fluted or foliated in design. The modern Sikhs being adepts in wood-carving, the doors and other details are not infrequently freely decorated. Jain temples are built on a somewhat similar plan to those of the Hindus, except that more than one shrine is often found in the enclosure and pillared verandas are a feature. In modern examples, however, this latter characteristic is frequently omitted.

Excluding the Jesuits at the Mughal court, the first Christian missionary to the Punjab was a Baptist preacher who visited Delhi early in the nineteenth century. Delhi and Simla are the only stations now occupied by this mission. The first great missionary movement in the Punjab proper was the establishment of the American Presbyterian Mission at Ludhiāna in 1834. The Ludhiāna Mission, as it thus came to be called, occupies a number of stations in the Central Punjab south of the Rāvi, and maintains the Forman Christian College at Lahore, with a printing press at Ludhiāna. The Church Missionary Society began operations in the Punjab in 1851. Its stations comprise a group round Amritsar and Lahore, and a long line of frontier stations stretching from Simla to Karāchi in Sind. It has a college in Lahore which prepares natives of India for holy orders, and the Church of England Zanāna Mission works in many of its stations. The Society for the Propagation of the Gospel began work in Delhi in 1852. In 1877 it was reinforced by the Cambridge Mission, which maintains the St. Stephen's College at Delhi. Other missions are the Methodist Episcopal, the Church of Scotland, the Moravian, the American United Presbyterian, the Zanāna Bible and Medical Mis-

sions, and the Salvation Army, besides the missionary work conducted by various Roman Catholic orders.

The following table gives statistics of religion as recorded in 1891 and 1901:—

		1891.	1901.
Hindus		10,122,473	10,344,469
Sikhs		1,851,070	2,102,896
Jains		45,615	49,983
Buddhists		6,236	6,940
Zoroastrians		370	477
Muhammadans		11,198,270	12,183,345
Christians	European and Eurasian	28,971	28,611
	Native	19,561	37,980
Jews and unspecified		57	36

Of the total population, at least 56 per cent. are supported by agriculture. Next in importance is the artisan section of the community, which numbers 4,898,080, or 19·8 per cent. of the population. Of these, cotton-weaving, spinning, &c., supports 1,012,314, and leather-working 742,034, while potters number 269,869, carpenters 263,717, and iron-workers 164,814. The making of tools and implements supports 135,786, and building 121,153; goldsmiths number 120,755, and tailors 108,963, but the figures for these smaller groups are subject to several qualifications. Commerce supports only 2·8, and the professions 2·2 per cent., of the population, while public service maintains 2 per cent. The residue is composed of general labourers (812,584 in number), personal domestic servants (1,771,944), and 827,289 persons whose subsistence was independent of occupation. In spite of the caste system, the division of labour has not been pushed very far in the Punjab. The carpenter is often an ironsmith, the shopkeeper a money-lender, the agriculturist a trader, and so on.

The staple food consists of the grain grown in the locality. Well-to-do people eat wheat and rice, while the ordinary peasant's food consists chiefly of wheat, barley, and gram in summer, and maize in winter. The poorer classes use inferior grains, such as *chīnā* (*Panicum miliaceum*), *mandua* (*Eleusine coracana*), *jowār* (great millet), &c. In the hill, submontane, and canal-irrigated tracts, where rice is largely grown, it forms the principal diet of the people in general; but elsewhere it is eaten only on festive occasions. In the west and south-west *bājra* (spiked millet) is mostly consumed in the winter. Pulses and vegetables are eaten with bread by prosperous *zamīndārs* and townspeople; but the poorer classes, who cannot always afford them, merely mix salt in their bread and, if possible, eat it with buttermilk. Peasants are especially fond of curds, buttermilk, and green mustard (*sarson*) as relishes with bread *Ghī* is used only by those who can afford

it. Meat is seldom eaten, except by the better classes, and by them only on occasions of rejoicing or by way of hospitality. The common beverages are buttermilk, water mixed with milk and sugar, country sherbets, and *sardai*, a cooling drink made by bruising certain moistened ingredients in a mortar; but the use of the two latter is almost entirely confined to the townsfolk. Aerated waters are coming rapidly into use. Hemp (*bhang*) is ordinarily drunk by the religious mendicants (*fakīrs*), both Hindu and Muhammadan. In towns cow's milk is used, but in rural tracts buffalo's is preferred, as being richer. In the camel-breeding tract camel's milk is also drunk.

The dress of the people is of the simplest kind and, in the plains, made entirely of cotton cloth. A turban, a loin-cloth, a loose wrap thrown round the body like a plaid, and, in the cold season, a vest or jacket of some kind, are the usual garments. White is the usual colour, but dyed stuffs are often worn, especially on festive occasions. As a rule Muhammadans avoid red, while Saiyids and others claiming descent from the Prophet favour green. Hindus similarly avoid blue, but it is the characteristic dress of Sikh zealots, like the Akālīs. Minor variations in dress are innumerable, and fashion tends to adopt European clothes, often with most incongruous results, among the men.

Women are far more conservative; but the influence of Islām has brought about the adoption of the trouser instead of the Hindu skirt, which is only general in the south-east. Here again local and tribal customs vary. Thus Rājput women, Hindu as well as Muhammadan, wear the trouser, and Gūjars the petticoat, while many Sikh and Hindu Jat women wear both. In the wilder parts of the central area the skirt was little more than a kilt, but the more elaborate garment is coming into fashion. The tight bodice is essentially a Hindu woman's garment, the looser skirt a Muhammadan characteristic. The wrap or *chādar* is universally worn; and the *pardā* system compels most Muhammadan and many Hindu and Sikh ladies of the better classes to wear, when compelled to leave the house, an ungainly and uncomfortable veil (*burka*) which covers the whole form.

The ordinary peasant's house is not uncomfortable, though hardly attractive. Built of mud, with a flat roof, and rarely decorated, it is cooler in summer and warmer in winter than a house of brick or stone. In the large villages of the Central and South-East Punjab the dwellings are close and confined, but in the south-west a ruder and more spacious type is found. Houses of stone are found mainly in the hills, and slate roofs only in the Himālayas. Brick (*pakkā*) houses in the villages are rapidly increasing in numbers, but in comfort are hardly an improvement on the old. In the cities such houses have long been the rule;

but to secure privacy and additional room they are built or rebuilt to several storeys, rendering sanitation an insoluble problem. The furniture of an ordinary house is cheap and simple, comprising a few string beds, stools, boxes, spinning-wheels, and cooking utensils, with a grain-receptacle of mud.

Muhammadans bury their dead, while Hindus and Sikhs, with some exceptions, burn them. The casteless people, such as the Chūhrās and Chamārs, who stand outside the pale of Hinduism, imitate whichever religion happens to be dominant in their neighbourhood. Hindus collect the bones from the ashes of the funeral pyre and send them to be thrown into the Ganges, or, if they cannot afford that, cast them into an adjacent stream.

Games are singularly few, especially among children; and this perhaps explains why cricket, and to a lesser extent football, have become popular in the schools. In the villages a kind of prisoner's base, clubs, quoit-throwing (among the Sikhs), tent-pegging, especially in the Salt Range and western plains, and camel racing on the Bīkaner border, are fairly popular. Otherwise athletics are a growth of British rule. Wrestling is virtually confined to professionals. Sport is often keenly followed, hawking, coursing, and shooting being favourite pastimes of the well-to-do in many rural tracts. In the towns quail-fighting is the form of sport most actively pursued. The drama hardly exists, except in a few rude plays (*swāngs*), acted by the professional castes. Folk-songs are fairly numerous, but the music is singularly rude and barbarous. The monotony of village life is rendered bearable by the numerous and costly ceremonies which a birth, a wedding, or a funeral demand.

Pilgrimages offer great distractions, and are regularly organized to shrines like that of Sakhi Sarwar. Fairs also afford excuse for numberless holidays, which are mostly spent in harmless though aimless amusements.

The principal Hindu holidays are:—the Basant Panchmi, or feast of Saraswatī, goddess of learning; the Sivarātri, or feast of Siva; the Holi, or the great spring festival and Saturnalia of Northern India; the Baisākhi, or Hindu New Year; the Salono, or day when amulets against evil are solemnly put on; the Janm Ashtmi, or birthday of Krishna; the Dasehra, which recalls Rāma's conquest of Rāvana; and the Dewāli, the Hindu feast of lanterns. Instead of the Holi, Sikhs observe a kindred festival called Hola Mohalla, held the day after, and also Gurū Nānak's birthday.

The chief Muhammadan holidays are, in the Punjab as elsewhere:—the Id-ul-Fitr or day after Ramzān, the Id-uz-Zuha, the Muharram, Bāra Wafāt, Jụma-ul-widā, and Shab-i-barāt. Besides these, every locality has a succession of minor fairs and festivals of its own.

The personal name generally consists of two words, which are selected from a variety of causes, astrological, religious, and superstitious. The father's name is rarely, if ever, given to the son, and there is seldom anything like a surname, persons being distinguished only by the variety of names employed. Among Hindus it is essential that the religious name given at birth should never be known or used, and the name by which a man is known is more or less a nickname; while among both Hindus and Muhammadans it is often not easy to say what a man's real name is, as a man who is known among his friends as Gotra or Mujjan will on occasions of state entitle himself Govardhan Dās or Murtazā Khān. The second name among Hindus is often in a sense honorific, and originally had a religious meaning, Rām and Lāl distinguishing Brāhmans, Singh Kshattriyās, and Mal, Rai, and Lāl Vaisyas; but these distinctions do not now hold good. All Sikhs indeed have names ending in Singh, but the title is not confined to them; and as to the others, a man who one year is called Parsū will, if things prosper with him, call himself Parasurāma the next.

Muhammadan names generally consist of two words, the *alam* or name and *lakab* or honorary title, such as Muhammad Dīn, though, as above mentioned, the villager will as often as not be known by an abbreviation such as Mamdū. A combination of one of the 'comely' names of God with *abd* ('servant') is also common, such as Abdullah, or Abdul Ghafūr. About half the proper names of Muhammadans are of religious origin, and the rest differ in no way from those of Hindus.

Besides the two regular personal names, both affixes and prefixes are found. Affixes generally denote the caste or clan, such as Ahlūwālia, Rāmgarhia, Seth, or Varma (a purely Khattrī appellation), or are honorific, such as the Muhammadan 'Khān.' This affix sometimes, but rarely, tends to harden into a surname. Prefixes are honorific and answer to the European Mr. or Monsieur: such are, among Hindus, Bābā, Lālā, Sodhī, Rājā, and Pandit; and among Muhammadans, Munshi, Fakīr, Wazīrzāda, and Makhdūm. In addition a man may bear honorific titles, many of which, such as Rai Bahādur and Khān Bahādur, are given by Government, so that a Muhammadan's full style and title may run Makhdūm Abdul Azīz Khān Shams-ul-Ulama Khān Bahādur, or a Hindu's Bābā Raghunāth Singh Rai Bahādur Dīwān Bahādur.

The most common endings for place names in the Punjab are the Arabic *-ābād* ('abode') and *-shāhr* ('city') and the Hindu *-pur*, *-nagar*, and *-wāra*, all meaning 'town' or 'place,' and *-kot* and *-garh* meaning 'fort.' Many are in the genitive, meaning, like Mukeriān or Fāzilka, the place of a certain tribe or people; while the termination *-wāla*, meaning 'belonging to,' is one of the most common.

Excluding the Himālayan and other hill tracts and the ravines of Rāwalpindi, Attock, and Jhelum Districts, the vast alluvial plain is broken only by the wide valleys of its rivers. Its soil is a sandy loam, interspersed with patches of clay and tracts of pure sand. The soils of the Himālayan and lower ranges resemble those of the plains; but both sand and clay are rarer, and the stony area is considerable. The quality of the soil is, however, of comparatively little importance, facilities for irrigation, natural or artificial, being the primary factor. The monsoon current extends only to the extreme south-eastern Districts. The rainfall is fairly sufficient for agricultural purposes in the hills and in the submontane tracts, but diminishes rapidly as the distance from the hills increases, being as little as 5 and 7 inches in Muzaffargarh and Multān. It is only in or near the Himālayas that unirrigated cultivation can be said to be fairly secure.

Agriculture.

The Punjab has two harvests: the *rabi* (*hāri*) or spring, sown mostly in October–November and reaped mostly in April–May; and the *kharīf* (*sāwani*) or autumn, sown in June–August and reaped from early September to the end of December. Both sugar-cane and cotton, though planted earlier, are autumn crops. The spring sowings follow quickly on the autumn harvesting. To the spring succeeds the extra (*zaid*) harvest, chiefly tobacco, melons, and similar crops, harvested late in June. Speaking generally, the tendency, as irrigation develops, is for intensive cultivation in the *rabi* to replace the extensive cultivation of the *kharīf*.

The advantages of frequent ploughing are thoroughly recognized, especially for wheat and sugar-cane, for which a fine seed-bed is essential. The plough used is an implement of simple construction, made of wood with an iron or iron-pointed share, and drawn by a single yoke of bullocks. When the soil has been reduced to a fairly fine tilth, a heavy log of wood roughly squared, called *sohāga*, is used to supply the place of a light roller. It breaks up any remaining clods, and also compacts and levels the surface.

There are three methods of sowing: by scattering the seed broadcast on the surface, by dropping it into the furrows by hand, or by drilling through a tube attached to the plough handle. The last method, if skilfully used, deposits the seed in the bottom of the furrow, and is employed when the surface is dry. The second is employed in moderately moist, and the first in thoroughly moist soils.

Land near a town or village is heavily manured, as also is land near a well, since it can be easily irrigated and valuable crops grown on it. Sugar-cane, maize, tobacco, and vegetables are always manured. Wheat, cotton, barley, and melons are manured only when manure is readily available. Spiked millet, gram, *tāra mīra*, and other inferior crops are

never manured. Thorough manuring costs from Rs. 60 to Rs. 80 an acre, and is most common in the vicinity of the larger towns, the municipal boards of which make a considerable income by sales of refuse. In such localities two to four very rich crops a year are grown. Irrigated land is manured much more generally than unirrigated. Besides the sweepings of villages, night-soil, the dung of sheep, goats, and camels, the ashes of cow-dung, and nitrous earth are used for manure. The two last are applied as a top-dressing, especially for vegetables and tobacco. The others are spread over the land after the *rabi* has been harvested, and ploughed in before the monsoon rains set in. A top-dressing of thoroughly decomposed manure is often applied to sugar-cane after the cuttings have struck, the soil being then hoed by hand and irrigated. Cattle, sheep, goats, and camels are often folded in the fields for the sake of their manure, and in the hills shepherds derive much profit by lending their flocks for this purpose. The practice of using cow-dung for fuel seriously diminishes the natural supply of manure.

Weeding and hoeing are resorted to only for the more valuable crops. The crops are cut entirely by hand, and harvesting employs all the menials of a village. Grain is mostly trodden out by cattle. The implements in use, of a primitive type and simple construction, are well adapted to the cultivator's needs, but are capable of improvement. The iron sugar-press has now almost ousted the old cumbrous wooden press.

Agriculture affords the main means of subsistence to 13,917,000 persons, or 56 per cent. of the population, exclusive of 214,000 partially supported by it. The Punjab is essentially a country of peasant proprietors, landholders and tenants numbering, with their families, 13,452,000 persons. Of the total number supported by agriculture, 36 per cent. are actual cultivators, only 184,000 being rent-receivers.

The principal crops in spring are wheat, gram, and barley. Wheat is the staple crop grown for sale. The development of canals in the past ten or fifteen years has led to a great expansion of the area under spring crops, especially wheat, which ordinarily covers about 10,000 square miles. In good years, such as 1894, 1895, and 1901, it covered more than 10,900, but in the famine years of 1897 and 1900 only about 7,800 square miles. Though best sown between the middle of October and the middle of November, it can be put in later; and in the Northern Punjab, if the winter rains are late, it may be sown up to the first week in January. There are many indigenous varieties, both red and white, bearded and beardless. Rather more than half the area under wheat is irrigated. The out-turn per acre varies from 4 to 12 cwt. on irrigated, and from 4 to 7 cwt. on unirrigated land.

Next to wheat comes gram, which usually covers more than 3,100

square miles, but the area fluctuates with the rainfall. Sown as a rule earlier than wheat and mainly in the poorer unirrigated lands, it is generally harvested a fortnight earlier, but is not infrequently sown and harvested with it. The yield per acre is about 4 to 9 cwt. on unirrigated land, but may rise to 11 cwt. under irrigation.

Barley is often sown mixed with wheat and gram, as it matures even if the rainfall be not sufficient for the wheat. It is also useful as a catch-crop, since it can be sown later than wheat. It is grown extensively for the breweries and as fodder. Barley ordinarily covers about 1,600 square miles. On irrigated land the out-turn per acre is from 5 to 11 cwt., compared with 3 to 9 cwt. on unirrigated land.

The staple cereals in autumn are maize, great millet (*jowār*), spiked millet (*bājra*), and rice. Of these, maize is the principal food-grain of the montane, submontane, and central tracts, and is cultivated extensively in all three. In 1904 it covered about 1,900 square miles. It is sown from the middle of June to the middle of August, and harvested between the middle of September and the middle of November. Maize yields from 4 to 11 cwt. per acre on land dependent on rainfall, and from 7 to 13 cwt. where irrigation is available.

In the Rāwalpindi and Delhi Divisions spiked millet is the chief crop, but it is also grown throughout the Province. It ordinarily covers more than 2,500 square miles, but in years of good rainfall more than 3,100 square miles. It requires less moisture than great millet, but its stalks are of inferior value as fodder. The yield per acre varies from 2½ to 10 cwt.

Great millet, grown throughout the Province, ordinarily covers 3,000 square miles. This also is chiefly sown on unirrigated land. When sown as a food-crop, it still yields from 120 to 180 cwt. of fodder per acre. Sown only as a fodder-crop it is called *chari*. The out-turn of grain per acre is from 3 to 5 cwt., increased by 1 or 2 cwt. if irrigated.

Rice is grown chiefly in Kāngra, Hoshiārpur, Karnāl, and Ambāla Districts, and throughout the Lahore and Multān Divisions. It ordinarily covers more than 1,100 square miles. There are many recognized varieties. Sowings extend from March to August, and the crop is harvested in September and October.

Other important autumn cereals are *rāgi* or *mandwi* (*Eleusine coracana*), *chīnā* (*Panicum miliaceum*), and *kangni* or Italian millet (*Setaria italica*). In 1904 these covered more than 300 square miles.

Cotton is increasing rapidly in importance as an export staple. The area sown now amounts to over 1,600 square miles. The crop is generally irrigated, except in the Delhi Division. Sown from March to July, it is picked from October to December. Ginning mills are springing up in the chief cotton tracts. A hundred pounds of uncleaned

cotton gives about 30 pounds of clean lint. The cotton is of the short-stapled variety known as 'Bengals,' but is in brisk demand.

Oilseeds are ordinarily sown on 1,000 to 1,300 square miles, but the area varies with the rainfall. The principal kind is *sarson* or rape-seed (*Brassica campestris*), sown from August to December on unirrigated land and ripening in March. Another kind, *toria*, is sown on irrigated land in August, and cut in November or December. Sesamum or *til* (*Sesamum orientale*) is an autumn crop, and a little linseed or *alsi* (*Linum usitatissimum*) is grown in the spring.

Indian hemp or *san* is only grown sparsely for the local manufacture of rope. It covered 77 square miles in 1904.

Spices covered more than 40 square miles in 1904, generally on manured and irrigated lands close to the villages. Chillies are the most important crop of this class; ginger is grown chiefly in the hills.

Sugar-cane is an important and valuable crop in Rohtak, Delhi, Karnāl, Jullundur, Hoshiārpur, Amritsar, Gurdāspur, Siālkot, Gujrānwāla, and Jhang Districts. It ordinarily covers about 520 square miles, of which more than 80 per cent. is irrigated and the rest moist land. Usually propagated from sets laid down from the middle of February to the middle of April, the crop is seldom cut till December or even later, thus occupying the land for nearly a year.

The poppy is a spring crop sown from September to January, the juice being extracted in April and May. In 1904 it covered more than 14 square miles.

Tobacco is grown more or less in every District as an 'extra' spring crop, sown in March or April and picked in June. In 1904 it covered a little more than 80 square miles, mostly manured lands near the villages.

Tea is grown only in Kāngra District, the States of Mandī and Sirmūr, and on a small area in Simla. In Kāngra there are 112 tea estates (15·5 square miles), of which 33 (with 3,500 acres) are owned by European planters. The out-turn in the latter varies from 150 to 250 lb. per acre, and the total output exceeds 1,000,000 lb. annually[1].

The area under indigo has greatly decreased of recent years, owing to competition with chemical indigo. The area in 1903–4 was a little more than 80 square miles, of which about 30 square miles were in Muzaffargarh District and 25 in Multān.

Highly manured land near villages grows turnips, carrots, and similar produce, which occupy 578 square miles. Potatoes, already a valuable crop in the Kāngra and Simla Hills, are increasing in importance. Mangoes are a paying fruit-crop in Hoshiārpur, Jullundur,

[1] This was written before the earthquake of 1905, which had disastrous effects on the tea industry.

Multān, and Muzaffargarh; and in the two latter Districts and in Dera Ghāzi Khān the date-palm flourishes, there being nearly 1,500,000 female trees which produce about 33,000 tons of fruit annually. It is consumed entirely in Northern India. There is some export of pears, apples, and other European fruit from the Kulū valley, but inaccessibility hinders the development of the industry.

The crop rotations shown below are generally recognized, but all depends on climatic conditions, soils, the means of irrigation, and the system of agriculture followed in any given tract: maize, indigo, or hemp, followed by wheat; great millet, followed by *masūr* and gram; rice, followed by barley, *masūr*, and peas; turnips or cotton, followed by maize; cotton or maize, followed by *senji*; *senji*, followed by melons. Since annexation, the potato, tea, and English fruits and vegetables have been introduced. The first named is so important that the people call it 'the hillman's sugar-cane.' Attempts made to acclimatize American maize have succeeded only in the hills, and even there the stock has deteriorated. It requires nearly five months to mature, and the heat of the plains ripens it too rapidly. In 1901 an experimental farm of 55 acres was started at Lyallpur in the Chenāb Colony. A 500-acre seed farm has also been opened in the Jhelum Colony.

A combined Agricultural College and Research Institute is to be established at Lyallpur, with a staff which will include a Principal, a Professor of Agriculture, an Agricultural Chemist, an Economic Botanist, an Entomologist, and a Mycologist. The college will train men for the Agricultural department, and also as teachers of agriculture in normal schools. The present experimental farm at Lyallpur will be largely increased in size, and it is intended to establish similar farms on a smaller scale in localities selected as characteristic of the main divisions of the Province. As the scheme develops, it is hoped that an Agricultural Assistant will be appointed for each District. The Veterinary department is a part of the Agricultural department, under the control of the Director of Agriculture.

The working of the Land Improvement and Agriculturists' Loans Acts varies from District to District. In some, borrowing from Government is unpopular, the cultivators preferring to take loans from the village banker, because, though the rates of interest charged by Government are low, it generally insists on punctual and regular repayment in fixed instalments, whereas the village bankers do not require punctual repayment, and often accept grain or cattle in lieu of cash. Moreover, the official formalities necessary before the cash reaches the cultivator's hands often deter him from applying for a loan from Government.

During the decade ending 1900 about 2½ lakhs a year was advanced under the Land Improvement Loans Act, 3·4 lakhs being advanced in

1900–1 and 1·5 lakhs in 1903–4. Loans are made at 6¼ per cent. per annum interest, and on the security of the borrower's holding. They are seldom misapplied, and are mostly taken for sinking irrigation wells, the number of which rose from 211,000 in 1890–1 to 276,000 in 1903–4. Allowing for the wells which fell out of use, more than 100,000 wells must have been sunk or renewed in this period, and of these a large proportion were made with the aid of loans from Government. Advances under the Agriculturists' Loans Act are made on the personal security of the cultivator, and practically only in or after drought, to enable him to replace cattle that have died and to purchase seed. Between 1891 and 1900 about 4·5 lakhs was advanced annually, 2 lakhs being advanced in 1900–1 and 1 lakh in 1903–4.

The indebtedness of the cultivators has long engaged the attention of Government, and the extent of the evil was illustrated by a special investigation into the conditions of certain tracts in Siālkot, Gujrānwāla, and Shāhpur Districts. The measures taken to cope with reckless alienation of land are described below, under Land Revenue. The creditors are in the great majority of cases small Hindu shopkeepers. Agriculturist money-lenders are found in parts of the Punjab, such as Amritsar, Gurdāspur, Ferozepore, and Ludhiāna, where the Sikh, 'half agriculturist, half soldier, and wholly Baniā,' predominates; and they are said to be even more exacting than the trading classes. The ordinary rate of interest varies from 21 to 25 per cent., except in the case of loans on jewels, which are given at about 12 per cent. A Registrar of Co-operative Credit Societies has been appointed in the Punjab. The number of registered societies on March 31, 1906, was 151, of which 108 were in the Districts of Gurdāspur and Jullundur.

The yak is found within the geographical limits of the Punjab, but only in the Northern Kāngra hills. In summer it finds pasturage up to 17,000 feet, but in winter grazes below 8,000 feet. In the Higher Himālayas it is used for ploughing and pack-carriage. At lower elevations it is crossed with the ordinary cattle of the hills.

The Punjab kine are of the humped Indian type. In the Himālayas the mountain or Pahāri breed is dark in colour, becoming black or red as the elevation increases. The Dhanni or Salt Range breed is similar in size but lighter, tending to white, in colour. In the plains there are several breeds, the principal being those of Montgomery, the Mālwā, and Hariāna, and that of the Kachi, the country between the Chenāb and the Thal steppe. The best animals are reared in the southern Districts—Hissār, Delhi, Rohtak, Gurgaon, and Karnāl. Bulls and bullocks are used for ploughing throughout the Province.

Wild buffaloes are no longer found in the Punjab, but the domesticated variety is common and highly prized. A good cow-buffalo yields from 25 to 30 seers of a white insipid milk, rich in fat, from which large

quantities of *ghī* (clarified butter) are made. The profit from *ghī* is in some Districts very large. Hides are an important article of commerce, and bones are largely exported.

The most prevalent cattle diseases are foot-and-mouth disease, haemorrhagic septicaemia, rinderpest, black-quarter, and anthrax. Sheep and goats also suffer from the first named. Though it is very common, the losses from it are slight, as only 2 or 3 per cent. of the animals attacked die. Septicaemia is also prevalent, especially during the rains, and the mortality is usually 90 per cent. Buffaloes are its chief victims, but it also attacks kine. Rinderpest is common, more especially in the hills, where it assumes a virulent form, killing 80 or 90 per cent. of the animals attacked. Cattle, sheep, goats, and even camels are subject to this pest. Inoculation, segregation, and other measures for combating cattle diseases are controlled by the qualified assistants who work under the Superintendent of the Civil Veterinary department and the Deputy-Commissioner. The prices of cattle vary considerably. A good milch buffalo fetches Rs. 100 or even Rs. 150. A pair of young Hariāna plough bullocks cost Rs. 120 or Rs. 140, and a cow from Rs. 50 to Rs. 70; but as a rule inferior and cheaper cattle are in demand.

The Baloch and Dhanni breeds of horses are the best known in the Punjab. Generally the Punjab stock has immensely improved during the last thirty years from the infusion of the English and Arab blood of thoroughbred stallions. Large horse-fairs are held at Sargodha (in Shāhpur), Dera Ghāzi Khān, Rāwalpindi, Gujrāt, Amritsar, Multān, and Jalālābād (in Ferozepore).

Sheep are important in the South-West Punjab, where wool is a staple product. The *dūmba* or fat-tailed sheep is found in the Salt Range, but does not flourish east of it. In the Himālayas the variety found resembles that of Dartmoor or Exmoor, the *khādu* being the best breed. Goats are kept chiefly for milk and meat, but the hair is also largely utilized.

Camels are found generally throughout the plains and in the Lower Himālayas, but the south and south-west supply the largest numbers. Mostly used as a pack-animal, the camel is also employed for draught, riding, and even ploughing in those parts. Camel fairs are held at Abohar and Bhiwāni (in Hissār).

Donkeys are miserable creatures in the Punjab, except in Rāwalpindi and the Districts west of the Chenāb. Mule-breeding from imported donkey stallions supplied by the Army Remount department is carried on in ten Districts and in both the canal colonies, and elsewhere by the Civil Veterinary department.

Cattle are largely stall-fed. Every village has its grazing grounds; but the grass is never abundant and fails entirely in years of scanty

rainfall, when the cattle are driven off in large numbers to find pasture along the rivers and below the hills.

The principal cattle fairs are those held at Amritsar, Jahāzgarh (in Rohtak), Gulū Shāh (in Siālkot), and Hissār.

The extent to which cultivation is dependent on irrigation may be gauged from the fact that 41 per cent. of the cultivated area is irrigated, mainly from wells and canals, and that 7 per cent. more is subject to inundation from the rivers. Hence only 52 per cent. of the cultivated area is wholly dependent on the rainfall. Of the 41 per cent. irrigated, 22 per cent. is irrigated from canals, 14 from wells, 4 from wells and canals combined, and 1 from streams and tanks.

The necessity and demand for irrigation vary with the climatic and physical conditions. Speaking generally, the necessity for perennial irrigation varies inversely with the amount of the rainfall, being therefore greatest in the south-west and least in the north-east submontane tracts. The two principal means of irrigation are canals and wells, the latter including various indigenous kinds of lift, and the area in which each can be used is determined by the depth of the spring-level. Perennial canals are beneficial where the spring-level is not less than 20 feet below the surface; but where it is higher, wells are used in the cold season and the canal is reserved for irrigating the autumn crop during the summer months, to prevent the soil from becoming waterlogged.

Native rulers were not blind to the possibilities of irrigation in the Punjab; but, at annexation, the only canals open in the Province, as it stood before the addition of the Delhi territory after the Mutiny, were the Hasli (since merged in the Bāri Doāb Canal) and a good many inundation canals in the south-western Districts. Thus the present canals are almost entirely the creation of British rule. These canals fall into two classes: (1) the perennial canals, with permanent headworks; and (2) the inundation canals which run only in the flood season, and irrigate the lowlands along the rivers. Of the former class there are now six canals: the WESTERN JUMNA, SIRHIND, BĀRI DOĀB, CHENĀB, JHELUM, and SIDHNAI, though there is seldom enough water in the river for a cold-season supply to the last named. These great canals serve four-fifths of the total area irrigated from Government works. There are six series of inundation canals: the UPPER and LOWER SUTLEJ, CHENĀB, INDUS (right bank), MUZAFFARGARH (from the left bank of the Indus and right bank of the Chenāb), SHĀHPUR, and GHAGGAR. Besides these, numerous small inundation canals are owned by private individuals or District boards. Of these, the GREY CANALS in Ferozepore are the chief. The total length of main channels and branches in 1890-1, 1900-1, and 1903-4 was 3,813, 4,644, and 4,744 miles respectively.

Canal revenue is direct or indirect. The former is paid by the cultivator according to occupier's rates fixed for different crops. It is assessed on all the great perennial canals by the canal officers, and the rules provide liberal remissions for failed crops. The indirect charges (owner's or water-advantage rate) aim at taxing the landowner for the rent or profits derived by him from the canal. The gross receipts averaged 50 lakhs between 1881 and 1890, 102 lakhs between 1891 and 1900, and amounted to 162 lakhs in 1900–1 and 200 lakhs in 1903–4. In the same periods the expenditure (excluding capital account) was 26 lakhs, 42 lakhs, 60 lakhs, and 66 lakhs. The net profits in 1903–4 were 134 lakhs, and, deducting interest on capital expenditure, 94 lakhs, or 8·7 per cent. The most profitable canal was the Chenāb Canal, which yielded 19·6 per cent. The return on capital has decreased greatly in the case of 'minor' works. This is due to the expenditure of 10 lakhs of capital during the ten years ending 1890 on protective works, which produced no direct return. The returns from inundation canals fluctuate enormously. For example, on the Upper Sutlej Canals the dividend was only 1·95 per cent. in 1900–1 and as much as 43·2 per cent. in 1901–2.

The efficient distribution of the water depends largely on the telegraph system by which canal officers are kept in constant touch with the gauge stations. Control of the distribution is secured by a systematic devolution of responsibility. The Chief Engineer receives a weekly report on the state of the crops, and is thus enabled to supervise the general distribution of the water throughout the Province; the Superintending Engineer controls its distribution among the divisions of his canal, and so on. Within the village the policy is to leave the distribution of the water in the hands of the cultivators, who see that it is divided in accordance with the share lists based on the area to be irrigated in each holding. On inundation canals the supply depends on the rise of the rivers, and these rarely do more than supply water for sowing a spring crop, which has to be matured by well-irrigation.

A vast irrigation scheme was sanctioned in 1905. It will comprise three new canals: the Upper Jhelum, Upper Chenāb, and Lower Bāri Doāb. Of these, the first will take off from the Jhelum in Kashmīr territory, 18 miles from the British border, and, skirting the Pabbi hills, pass close to Gujrāt town and tail in above the head-works of the existing Chenāb Canal. It will have only one branch; but its distributaries, 562 miles in length, will irrigate the southern part of Gujrāt and a part of Shāhpur District, which is not supplied by the Jhelum Canal. The Upper Chenāb Canal will take off from the Chenāb river opposite Siālkot, and will irrigate a large part of Gujrānwāla and Lahore Districts and a little of Siālkot; then, crossing the Rāvi river by

a siphon 16 miles below Lahore, it will feed the third canal in the series. This, the Lower Bāri Doāb Canal, will run parallel with the Rāvi river through the whole length of Montgomery District and end in Multān District, the northern portion of which it will also irrigate. These projects are estimated to cost 782 lakhs, and will take nine years to complete, provided that sufficient labour is forthcoming. The total length of the three canals will be 230 miles, with 2,714 miles of distributaries.

The only navigable canals are portions of the Western Jumna and Sirhind systems. The former is navigable from its head to Delhi; a portion of the Hānsi branch is also navigable, the total length of navigable channels being 207 miles. The Sirhind Canal is navigable for 180 miles from its head at Rūpar, and from the town of Patiāla to Ferozepore, where it connects with the river Sutlej, whence there is a continuous water-way to Karāchi. The boat traffic is insignificant, the boat tolls on both together amounting to less than Rs. 5,000 per annum; but there is a considerable raft traffic, &c., particularly on the Western Jumna Canal, where the dues average about Rs. 40,000 per annum. The rafts consist principally of timber, sleepers, scantlings, and bamboos, which are floated down the hills to the canal head, and are thence passed into the canals.

Almost all the irrigation carried on by indigenous methods is from wells. In 1903–4 the Punjab contained over 276,000 masonry wells and 38,000 unlined and lever wells and water-lifts. In that year the total area of the crops matured under well-irrigation was about 5,400 square miles. Masonry wells are worked by bullocks, the Persian wheel or a rope and bucket being used. Unlined wells are chiefly found in riverain lands, but small unlined wells are also used in submontane tracts with a high spring-level. They are mostly worked by a lever. Masonry wells cost from Rs. 150 to Rs. 750 or more according to depth. Unlined wells cost only about R. 1 per foot, but seldom last more than three years.

In the Salt Range and the hilly tracts of Gurgaon and Dera Ghāzi Khān, torrents are embanked and the water is spread over the fields as required. In the hills and submontane tracts a considerable area, chiefly under rice, is irrigated by small channels (*kūhls*) taken out of a river or stream and often carried along the hill-sides.

Fish are plentiful in most of the rivers and canals of the Province. In certain Districts the fisheries are leased by Government to contractors, and in 1904–5 the total income from this source was Rs. 4,342. In accordance with the provisions of the Indian Fisheries Act (IV of 1897), certain methods of fishing, such as the use of the drag-net, have been prohibited in some of the streams of Rāwalpindi District, and in the Jumna for a mile above and a mile below the Okhla weir

at the head of the Agra Canal, while in Sirmūr and the hill-country of Patiāla the fish in the Giri and other streams are strictly preserved in the interests of anglers.

Rents, wages, and prices.

The state under native rule took all, or nearly all, the produce of the land which was not required for the subsistence of the cultivators, and it is only since the value of land has risen under the more lenient British assessments that anything in the shape of a margin leviable as rent has been in any general way available for the owners of land.

The assessment on land, which under Sikh rule was usually taken direct from the cultivator in kind, is now always taken from the owner in cash, and the latter recovers from the tenant, in kind or in cash, an amount which ordinarily ranges from twice to three times the value of the assessment. The usual practice is to take rent in kind at a share of the produce, and 57 per cent. of the rented area of the Province is now subject to some form of kind rent; but where crops difficult to divide are grown, and in the neighbourhood of towns, or on lands held by occupancy tenants, or in tracts, such as the south-east of the Punjab, where the custom is of some standing, it is not unusual to find rents paid in cash. The exact rate at which a rent in kind is paid is largely a matter of custom; and such rents, while varying considerably from soil to soil, do not change much from time to time. Cash rents, on the other hand, have necessarily increased with the increase in the prices of agricultural produce; and the average incidence of such rents has risen from Rs. 1–13–2 per acre in 1880–1, to Rs. 2–6–5 in 1890–1, and Rs. 4–6 in 1900–1.

As nearly one-half of the land in the Punjab is cultivated by the owners themselves, and a fair portion of the rest by owners who pay rent to co-sharers or other owners, the tenant class is neither so large nor so distinctively marked as in the rest of Northern India, and the law affords much less elaborate protection to the tenant than is usual in the United Provinces or in Bengal. A limited number of the tenant class, amounting to nearly one-fifth of the whole, have been marked off by the legislature on certain historical grounds as entitled to rights of occupancy, and the rents of this class cannot be enhanced to a standard higher than $12\frac{1}{2}$ to 75 per cent. (according to circumstances) in excess of the land revenue. In the case of the remaining tenants, who hold at will, no limit is fixed to the discretion of the landlord in the matter of enhancement; but the procedure to be followed in ejectment and the grant of compensation for improvements legally executed are provided for by the law in respect of both classes of tenants.

The figures given in the following table are of interest as showing the direction in which rents are developing:—

	1880–1.	1890–1.	1900–1.	1903–4.
	Acres.	Acres.	Acres.	
Average area held per proprietor . .	30·8	18·8	17·8	Not available.
Average area of tenant's holding . .	6·0	3·7	3·3	2·5
Percentage of total cultivated area held by tenants	34·7	46·0	52·3	54·1
Percentage of tenant area held by occupancy tenants	31·3	19·6	17·0	19·0
Percentage of grain-rented to total rented area	49·8	54·1	56·6	57·5

These statistics are subject to a good many reservations which need not be entered into here; but they are sufficient to disprove the usual impression that the increase of the landowning population entails a withdrawal of land from tenants, and that with the development of the country the practice of kind rents is disappearing.

With normal prices, the sum required for the food of a labouring family may be taken to be about Rs. 4½ a month, and to this Rs. 1½ a month must be added for a reasonable amount of furniture, clothing, and other necessaries. The ordinary unskilled labourer, therefore, looks to get about Rs. 6 a month or its value, and this may be taken as the ordinary rate roughly prevailing. The labourer in a town is usually paid entirely in cash; in the country he is paid either wholly or partially in kind. The country labourer needs a little more food than the town labourer; but whereas the latter has house-rent to pay, the former generally obtains his house at little or no expense to himself. The cultivator who rents but does not own land lives at a standard of comfort very little higher than the landless labourer. As his expenditure, like his income, is almost entirely in grain, and a large part of his food and clothing is produced by himself, it is difficult to estimate his receipts in money; but it would probably be fair to say that, when the ordinary day labourer receives Rs. 6 a month, the receipts of the cultivator after paying his rent would be represented by something like Rs. 7 or Rs. 8, while if the cultivator were also an owner of land his average income, after payment of Government dues, might be put at Rs. 10, or more. Skilled labourers, such as blacksmiths or masons, get about Rs. 16 a month or its equivalent, and carpenters still more. The ordinary vernacular clerk in a commercial or Government office will as a rule get something between Rs. 15 and Rs. 20, but on this he has to maintain a better style of dress and living than men who work with their hands. Wages are now twice or thrice as high as they were in Sikh times, and there has been a progressive rise in recent years. So far as the labourer's food is concerned, its money value has in the last twenty years increased by 30 to 35 per cent., while the other items of his expenditure have decreased in price; and it would probably be correct

to say that during the same period the labourer's wages have risen from 20 to 25 per cent. With artisans the increase has been larger, or from 25 to 30 per cent.

Although there are large piece-goods and other marts at places like Delhi and Amritsar, no official statistics are maintained regarding the prices of any but agricultural staples. For these, three classes of data are available: the prices obtained by agriculturists at harvest time at a fair number of towns and large villages in each District; the wholesale prices prevailing at the end of each fortnight in six representative cities of the Province; and the retail prices prevailing at the end of each fortnight at the head-quarters of each District. The differences between the figures obtained under the first and second of these heads are due partly to the cost of carriage, and partly also to the want of capital among agriculturists, which necessitates their selling while the market is still low. To illustrate the difference which prevails between the three classes, an example may be taken from one of the central Districts in 1904, when wheat sold at the country markets at harvest time for Rs. 19·5 per ten maunds, whereas at the head-quarters the average wholesale price for the year was Rs. 21 and the average retail price Rs. 22. In making rough calculations for assessment purposes, it is usual to assume that the agriculturist gets 4 annas per maund of 82 lb. less than the recorded average retail prices of the year. The rise of prices in the Province at large is best studied in the retail figures, which are available in greater completeness than the others. Table V at the end of this article (p. 383) shows prices for a series of years at Delhi, Amritsar, and Rāwalpindi. In wheat, which is the main staple of the Province, the average rate of increase in the three markets noted is 36·7 per cent. for the period 1880–1900; and if wheat, gram, *jowār*, and *bājra* are dealt with in the proportion in which they are grown, the average joint increase is 35·4 per cent. The mileage of railways within the Province has more than quadrupled in the same period, and the large rise in prices is doubtless due in the main to this improvement in communication, accompanied by the opening of foreign markets.

Village life is still simple and possesses few luxuries. All the articles that the people require, except matches, lamps, and kerosene oil, and, most important of all, piece-goods, are made locally, and are much the same as they were before British rule. The wealth which is being accumulated by the people is hoarded, commonly in ornaments, and less usually in cash. The circulation of Punjab circle currency notes rose from 134 lakhs in 1891–2 to 263 in 1903–4, and the deposits in the Postal savings banks increased from 63 to 80 lakhs in the same period. The peasantry, especially the landowners, have a much higher standard of living than they had forty years ago, their increased means

enabling them to travel more, eat better food, wear better clothing, and own more horses, utensils, and jewels. The Sikh Districts of the Central Punjab and the submontane and Himālayan tracts are perhaps the most prosperous. Among the landless labouring classes the increase in general comfort has been marked, owing to the extension of canal-irrigation and the foundation of the Chenāb Colony, which has attracted large numbers of labourers from nearly every part of the Province. In the towns cheap European luxuries, such as German watches, patent leather shoes, and bicycles, find a considerable sale, as do American drugs and cigarettes. Round most of the larger towns suburbs are springing up containing villas built in European style with gardens, to which the wealthier classes resort as a change from their close ill-ventilated homes within the ancient walls.

Forests.

The forests may be divided into two main classes, those of the hills and those of the plains. For the most part the forests of the plains are of the class known as dry forests, growing in tracts of scanty rainfall and poor, sandy, and often salt-impregnated soil. The characteristic trees are the tamarisk or *farāsh* (*Tamarix articulata*), the leafless caper or *karīl* (*Capparis aphylla*), the *jand* (*Prosopis spicigera*), the *van* (*Salvadora oleoides*), and a few acacias of the species known as *kīkar* in the Punjab and *babūl* in the rest of Northern India (*Acacia arabica*). Forests of this type, interspersed with large treeless wastes, occupy extensive areas in the Lahore, Montgomery, Multān, Chenāb, Jhelum, and Shāhpur Forest divisions, where they are estimated to cover an area of about 4,000 square miles. In the Central Punjab large tracts covered with the *dhāk* (*Butea frondosa*) are common. As they approach the hills these forests become richer in species, and gradually blend with the deciduous forests of the Lower Himālayas, while to the south and west they give place to the deserts of Rājputāna and Sind. On the banks and islands of rivers, and indeed wherever water is near the surface, the *shīsham* (*Dalbergia Sissoo*) often becomes gregarious, and is of some importance; and many other species, such as acacias and the black mulberry, are found. The avenues of *shīsham* and other trees planted along roads and canals are an important feature in the scenery of the Province.

The *sāl* tree (*Shorea robusta*) is found in the small submontane forest of Kalesar in Ambāla, in the adjoining State of Sirmūr, and in a few scattered areas in Kāngra District. This is, however, the extreme western limit of its growth, and it can never be expected to attain any great dimensions. The rocky hills of the Salt Range and Kālā-Chitta are in parts covered with an open forest, in which the olive (*Olea cuspidata*) and the *phulāhī* (*Acacia modesta*) are the principal trees.

The hill forests fall into groups classified by their elevation. Below 3,000 feet they are composed of scrub and bamboo (*Dendrocalamus strictus*). The bamboo forests are most important in Kāngra, where they cover an area of 14,000 acres; the scrub forests survive in good condition only in places where they have been protected by closure from grazing. Between 2,500 and 5,000 feet of elevation the *chīl* pine (*Pinus longifolia*) is the principal tree. Forests of this tree are found throughout Kāngra proper, in the Murree and Kahūta *tahsīls* of Rāwalpindi, and in the lower portions of the valleys of Kulū, Bashahr, and Sirmūr. Between 5,000 and 8,000 feet occurs the true zone of the valuable *deodār* (*Cedrus Deodara*), which grows either in pure forests or mixed with the blue pine (*Pinus excelsa*), the silver fir (*Abies Webbiana*), the spruce (*Picea Morinda*), and trees of various deciduous species. The principal *deodār* forests are found in the Pārbati valley, and around the head-waters and side streams running into the Beās in Kulū, on either side of the Rāvi in Chamba and the Chenāb in Pāngi, in the valleys of the Sutlej and the tributaries of the Jumna in Bashahr, and in Jubbal. In this zone extensive forests of blue pine, pure or mixed with *deodār*, also occur, principally in Kulū and Bashahr. Above 8,000 feet, extensive areas, especially in the zone between 9,500 and 12,500 feet, are covered with silver fir, spruce, and trees of various deciduous species. Approaching 12,500 feet, which is about the limit of tree growth, rhododendron, birch, and juniper are found. The grassy slopes which extend from the limit of tree growth to the line of perpetual snow afford pasturage, and shepherds and herdsmen migrate thither annually with their flocks and cattle.

The administration of all the more important forests is controlled by the Forest department, under a Conservator. There are twelve Forest divisions, including those of the Bashahr and Chamba States, the forests of which are leased by the Punjab Government. The forests of the Simla Hill States are under the general care of the Simla Forest officer, who advises the chiefs. In 1904 the land under the Forest department amounted to 9,278 square miles, of which 1,916 were completely 'reserved,' 4,909 'protected,' 1,914 'unclassed,' or given over with some restrictions to the use of the public, and 539 'leased.' There were also 112 square miles of 'reserved' forest, and square miles of 'unclassed,' under the Military department; and other civil departments had charge of 4 miles of 'reserved,' 10 acres of 'protected,' and 7,033 square miles of 'unclassed' forests, the last being chiefly waste land in the charge of Deputy-Commissioners.

All *deodār* forests of commercial importance are worked in accordance with working-plans, prepared by the Forest department and sanctioned by the Local Government. Under their prescriptions 7,140 *deodār* trees are allowed to be cut annually, and the annual

yield of *deodār* timber from the forests under the control of the department is estimated at 659,000 cubic feet. This timber, together with a certain amount of blue pine and *chīl*, is floated down the various rivers to the plains, where it is sold to railways for sleepers, or to the public. Efforts are now being made to introduce exploitation by private enterprise. The *chīl* forests of Murree and Kahūta are also under a working-plan, and for those of Kāngra a plan is in preparation. In the Kāngra forests the *chīl* trees are systematically tapped for resin. The spruce and fir forests are for the present principally of value as grazing grounds, and for supplying local requirements in forest produce. They hold, however, enormous stocks of timber, which may eventually become of commercial value. The scrub forests below 2,500 feet and much of the plains forests are managed as grazing grounds. The bamboo forests of Kāngra form a valuable property, yielding an annual surplus revenue of about Rs. 20,000.

All closed forest areas in the lower hills and in the plains may be regarded as fuel and fodder reserves. In times of drought such areas are opened to grazing, and if necessary to lopping, so as to enable the people to keep their cattle alive until the occurrence of more favourable seasons. The area of forest land in the plains is rapidly decreasing as colonization schemes are extended, and the consequent contraction of fuel and fodder-producing areas may be felt in the future.

Chānga Mānga in Lahore District contains a plantation of 8,872 acres fully stocked with *shīsham* and mulberry, and there are smaller *shīsham* plantations at Shāhdara in the same District, and at Jullundur, Ludhiāna, and Jagādhri. Efforts have been made for many years past to increase the stock of *deodār* in the hill forests by artificial sowings and plantings, which have been to a certain extent successful.

The wants of the people are fully provided for by the various forest settlements, which record their rights to timber, fuel, grazing, &c., in the Government forests; and in some places the inhabitants have the first option of taking grazing leases, and buying the grass from the adjoining forests. The relations of the department with the people are satisfactory, and offences against the forest laws are usually trivial and are becoming less numerous.

Attempts are made to protect all the more valuable forests from fire. Fortunately the valuable *deodār* forests are but little exposed to this danger, but the *chīl* forests become highly inflammable in the hot season. The local population at first resented the restrictions imposed by fire conservancy, and many cases of wilful firing of forests used to occur; but such occurrences are now happily less frequent, and the people often give willing help in extinguishing fires in Government forests.

The financial results of the working of the department are shown in the following table:—

	1880-1 to 1889-90 (average).	1890-1 to 1899-1900 (average).	1900-1.	1903-4.
	Rs.	Rs.	Rs.	Rs.
Revenue . .	7,74,362	10,06,412	12,60,234	16,51,077
Expenditure .	5,49,045	7,08,100	8,35,299	9,55,918
Surplus . .	2,25,317	2,98,312	4,24,935	6,95,159

Forest revenue is principally realized from the sale of *deodār* timber, which produces about 6 lakhs annually, sales of other timber amounting to only Rs. 60,000. The other chief items are sale of fuel (Rs. 4,60,000), and grazing and grass (Rs. 1,64,000).

Mines and minerals.

The Punjab is not rich in minerals; and nearly all its mineral wealth is found in the hills, the only products of the alluvium being *kankar* or nodular limestone, saltpetre, carbonate of soda, and sal-ammoniac.

Saltpetre is found on the sites of used and disused habitations, generally associated with the chlorides of sodium, magnesium, or potassium, and the sulphates of sodium, potassium, or calcium. The initial process of manufacture, which consists in allowing water to percolate slowly through the nitrous earth, results in a solution not merely of nitre but of all the associated salts. The separation of the nitre from the rest is the work of the refiner. Refineries exist all over the Province and pay an annual licence fee of Rs. 50, while for the initial process the fee is Rs. 2. Saltpetre is exported to Europe, and is also largely used in India in the manufacture of fireworks and gunpowder for blasting. In 1903-4 there were 35 refineries in the Punjab. These produced 73,917 cwt. of refined saltpetre, the out-turn being nearly 41 per cent. of the crude substance. Impure salt (*sitta*) to the amount of 58,322 cwt. was also educed, the out-turn being over 32 per cent. of the saltpetre so utilized. Of this amount, only 4,091 cwt. were excised at Rs. 1-5-9 per cwt. (R. 1 a maund), 54,496 cwt. being destroyed. Pure salt is not educed. A large saltpetre refinery exists at Okāra in Montgomery District.

The only other important mineral product of the plains is *kankar*, or conglomerated nodules of limestone, used for metalling roads, which is found in most parts. Carbonate of soda (barilla) is made from the ashes of various wild plants, chiefly in the west and south-west of the Province. Sal-ammoniac is manufactured in Karnāl, by burning bricks made of the clay found in ponds and heating the greyish substance which exudes from them in closed retorts.

The most valuable mineral is rock-salt, which, with gypsum, forms immense beds in the Salt Range. It is worked in that range at KHEWRA and NŪRPUR in Jhelum District, at KĀLĀBĀGH in Miānwāli, and at WĀRCHA in Shāhpur. Salt is also manufactured at Sultānpur, in Gurgaon

District, by evaporation of the saline subsoil water. Salt, dark in colour and containing a large proportion of earth and other impurities, is quarried at Drang and Guma in the State of Mandī. The total amount of salt made and sold in the Punjab rose from 79,295 tons in 1880–1 to 84,338 tons in 1890–1, 94,824 tons in 1900–1, and 105,163 tons in 1903–4. The average output of the Salt Range and Mandī mines in the six years 1898–1903 was 93,698 tons, of which 89,023 came from the Salt Range; the output of the Salt Range in 1904 was 99,192 tons. Large deposits of gypsum occur in Spiti and Kanāwār, but too inaccessible to be at present of any economic value.

Although the existence of coal at numerous points throughout the Salt Range had long been recognized, no attempts were made to work it until recently, except at the large colliery near Dandot in Jhelum District. Within the last few years, however, prospecting licences have been taken out at Kālābāgh on the Indus in Miānwāli District, a few other places in Jhelum, and Sandral in Shāhpur; and great hopes are entertained that the coal will prove to be of a paying quality. The Dandot Mines have been worked since 1884 by the North-Western Railway. There is only one seam of coal, which outcrops at various points along the hill-side at a mean distance of 300 feet below the limestone scarp, which here rises 2,300 feet above sea-level. The seam averages 2 feet 9 inches in thickness, and is worked on the long-wall system, all the coal being taken out in one operation. The mines are entered by level or inclined tunnels from the hill-side, the longest stretching 900 yards under the hill. From the mouth of each tunnel the coal is conveyed on an inclined tramway to the edge of the hill, whence a funicular railway runs down the cliff to the North-Western terminus at Dandot. The coal is classed as a bituminous lignite, and, though low in fixed carbon, has a relatively high calorific value. About 1,500 men are employed on the mines, at a daily wage of 8 annas for a miner and $3\frac{1}{2}$ or $4\frac{1}{2}$ annas for a cooly. The workers are chiefly agriculturists, who leave the mines when their fields claim all their time, to return to them again when the crops need less attention. Very few can really be called miners. Makrānis were at one time imported from Karāchi, but the experiment was not a success. In 1891 the out-turn was 60,703 tons, in 1901 67,730, and in 1904 45,594 tons. In 1901 it was estimated that three million tons remained to be worked.

There are no gold-mines in the Punjab, but gold-washing is carried on at various places in the upper reaches of most of the rivers. The industry is not remunerative, a hard day's work producing gold to the value of only 2 or 4 annas[1]. The total recorded output in 1904 was 370 oz.

Iron is found in Kāngra District at several points along the Dhaola

[1] *Punjab Products*, by Baden Powell, pp. 12, 13.

Dhār, in the form of crystals of magnetic oxide of iron imbedded in decomposed and friable mica schists. The supply is practically inexhaustible, and the quality of the ore is equal to the best Swedish iron. The remoteness of the tract, combined with difficulties of carriage and absence of fuel, have hitherto prevented smelting on a large scale. Besides iron, antimony ore is found. Iron mines are also worked at Kot Khai in Simla, and in the Hill States of Jubbal, Bashahr, Mandī, and Suket. Sirmūr State possesses several iron mines, but they are not worked owing to their inaccessibility and the poor quality of the ore.

Copper was formerly smelted in considerable quantities in various parts of the Outer Himālayas in Kulū, where a killas-like rock persists along the whole range, and is known to be copper-bearing. Veins of galena and of copper pyrites occur in the Lower Himālayas, in Kulū, and in the Simla Hill States; and stibnite is found at Shigri in the valley of the Chandra river in Lāhul.

There are quarries at Bākhli in the State of Mandī, near Kanhiāra in Kāngra District, and throughout Kulū, which turn out a good quality of slate. A quarry at Kund in the Rewāri *tahsīl* of Gurgaon is worked under European management, but the slate and flake are not of good quality.

Petroleum springs occur in Attock District, and in the hills to the south-east, but the average recorded output during the six years ending 1903 was only 1,674 gallons. In 1904 the output was 1,658 gallons.

Near Kālābāgh in Miānwāli District, on the Indus, considerable quantities of a pyritous shale are extracted for the production of alum, but the mining is carried on in an irregular and fitful way. The output was estimated in 1898 to amount to 750 tons, and to only 129 tons in 1904.

Arts and manufactures.

Cotton-spinning is the great domestic industry of the Province, coarse cotton cloth being woven by hand in almost every village. In 1901 the number of persons returned as supported by cotton-weaving in British territory was 778,947, of whom 322,944 were actual workers and 456,003 dependents. The coarse country cloth is strongly woven and wears well, and is not likely to be entirely displaced by the machine-made article for some time to come. Finer qualities are also manufactured, but these include only longcloths and damasks, white or coloured, with woven patterns. Muslin (*tanzeb*) is made in small quantities at Delhi and Rohtak. The longcloths, when checked and of thick material, are called *khes*, and when striped are termed *sūsī*, the latter being made of machine-spun yarn with sometimes a few silk threads in the warp. The *lungī* or *pagrī* is a long narrow strip of cotton cloth worn by men round the head as a turban or as a band round the waist. Beautiful

khes are made in the South-West and Central Punjab. The *gabrūns* of Ludhiāna closely resemble similar goods made in Europe, and its *lungīs*, imitations of those made in Peshāwar, are famous. The *lungīs* of Shāhpur and Multān are more ornate. A special cloth made of a mixture of cotton and wool called *garbi loi* is woven in Gurdāspur District and exported all over India. The glazed fabrics of Jullundur, especially the diaper called *ghāti* or *bulbulchashm* or 'nightingale's eye,' are also famous. Cotton rugs, *dāris* or *shatranjīs*, are turned out at Lahore and Ambāla. Cotton-pile carpets are made at Multān, but recent productions indicate that a crude scheme of colours has ruined the beauty of this manufacture. Cotton-printing is carried on in many parts of the Punjab, and the productions of Kot Kamālia, Sultānpur, and Lahore are especially famous. The printing is done by hand by means of small wooden blocks. Within recent years fairly large quantities have been exported to Europe and America, but the trade is declining owing to the fashion having changed.

Sheep's wool is largely produced in the plains, and is woven or felted into blankets and rugs. Dera Ghāzi Khān and Bhera produce coloured felts (*namdās*) in considerable quantities. The finest wool is that of Hissār, and the western Districts also produce a fair quality. Some of the wool worked up in the Province is imported from Australia, most of this being utilized by the power-loom mills at Dhāriwāl. Of greater interest, however, are the manufactures of *pashm*, the fine hair of the Tibetan goat. This is imported through Kashmīr, Kulū, and Bashahr, and supplies Ludhiāna, Simla, Kāngra, Amritsar, and Gujrāt, the chief seats of artistic woollen manufacture. The industry dates from early in the nineteenth century, when famine drove numbers of artisans from Kashmīr to seek a home in the Punjab. Real Kashmīr shawls continued to be made until the Franco-German War, when the demand ceased; and the manufacture of *pashmīna*, or piece-goods made from *pashm*, is now confined to *alwāns* or serges, curtains, and ordinary shawls. In many Districts sacking, coarse blankets, and rugs are made of goats' and camels' hair.

Practically the whole of the silk used in the Punjab is imported from China. It is woven in most parts, the chief centres being Amritsar, Lahore, Patiāla, Batāla, Multān, Bahāwalpur, Delhi, and Jullundur, where both spinning and weaving are fairly important industries. The articles manufactured may be divided into three classes: woven fabrics of pure silk, woven fabrics of silk and cotton, and netted fabrics of silk or silk and cotton, of which the second are being turned out in largely increasing quantities. Turbans and waistbands (*lungīs*) of cotton cloth with silk borders woven on to them are also very largely made. Netted silk is made in the form of fringes, tassels, girdles, *paijāma* strings, &c.

Many kinds of wearing apparel are decorated with embroidery. The wraps called *phūlkāris* ('flower-work') are in most Districts embroidered with silk, and the industry has grown from a purely domestic one into a considerable trade, large numbers being exported to Europe for table-covers and hangings. Very similar are the *orhnās* of Hissār, which are embroidered in wool or cotton. Delhi is the centre of the trade in embroideries, in which gold and silver wire, as well as silk thread, is largely used, on silk, satin, and velvet. The purity of the manufacture is guaranteed by the municipality, which supervises the manufacture, fees being paid by the artisans to cover expenses. This practice, a relic of native rule, is highly popular among the workmen, who thereby get a guarantee for the purity of their wares. The embroidery is applied chiefly to caps, shoes, belts, uniforms, turbans, elephant trappings and the like, besides table covers and similar articles of European use.

The carpet-weaving of Amritsar is a flourishing and important industry, and its products are exported to all parts of the world. *Pashm* is used for the finest carpets, and the work is all done by hand. Woollen carpets used to be made at Multān, but owing to the competition of Amritsar the industry is now confined to the manufacture of mats. Felt mats called *namdās* are made of unspun wool and embroidered.

Ornaments are universally worn, and Punjābi women display jewellery as lavishly as those in any other part of the plains of India. It has been estimated that Amritsar city alone contains jewels to the value of two millions sterling, and the workers in precious metals in the Province considerably outnumber those in iron and steel. Gold is mainly confined to the wealthier classes, and is not largely worn by them except on special occasions; whereas silver ornaments are in daily use by all but the poorer classes. The late Mr. Baden Powell[1] gave a list of ninety-nine names for ornaments used in the Punjab, and the list is by no means exhaustive; it includes ornaments for the head, forehead, ears, nose, neck, arms, and waist, with bracelets, anklets, and rings for the toes and fingers in great variety. The general character of the gold- and silver-work is rough and unfinished. Superior work is turned out at Amritsar and Delhi, and at the latter place a good deal of jewellery is made for the European market.

Iron is largely smelted in Kāngra and Simla Districts, but the out-turn is insignificant compared with the amount imported into the Punjab. Lahore used to be famous for the manufacture of weapons, but the industry is now extinct. In Gujrānwāla and at Bhera in Shāhpur District cutlery is made, but the production is irregular.

[1] *Punjab Manufactures*, pp. 181–4.

The finish of these articles, though not perfect, is better than the quality of the steel, which is tough but deficient in hardness. Damascening or inlaying small articles of iron with gold wire is carried on in Siālkot and Gujrāt Districts. Agricultural implements are made by village blacksmiths, who are also often carpenters. In Lahore ironwork has been considerably improved under the influence of the North-Western Railway workshops.

All the brass and copper used is, in the first instance, imported, chiefly from Europe. Formerly copper was obtained from Kābul, but the import has entirely ceased. Various copper and zinc ores, found in the Kulū hills and other parts of the Himālayas, used to be mined, but the imported metals are so cheap that there is no immediate likelihood of the mines being reopened. European spelter, chiefly German, has long since driven the Chinese zinc out of the market. Both yellow and grey brass (or bell metal) are manufactured in the Punjab. Brass-ware is either hammered or cast; copper-ware is either cast or made of sheet copper soldered together. The industry is limited to the manufacture of domestic utensils, which are only roughly ornamented. The chief centres of the manufacture are the towns of Rewāri, Delhi, Jagādhri, Pānīpat, Gujrānwāla, Amritsar, Pind Dādan Khān, and various places in Siālkot District.

Rough unglazed pottery is made in nearly every village, the potters being generally village menials who supply the villagers' requirements in return for a fixed share of the harvest. Unglazed pottery of a rather better kind is made at Jhajjar, and thin or 'paper' pottery at Pānīpat, Jhajjar, Jullundur, Tānda, and a few other places. Glazed pottery is made at Multān. Originally confined to the manufacture of tiles, there is now a large trade in flower-pots, plaques, vases, &c. The predominant colours are light and dark blue, brown, and green. Porcelain of disintegrated felspathic earth, mixed with gum, is made at Delhi. China clay is found near Delhi and in the Himālayas, but has not hitherto been utilized. The manufacture of glass is mainly confined to the production of glass bangles. Bottles, glasses, mirrors, lamps, lamp-chimneys, and other articles are made at Karnāl, Kāngra, Hoshiārpur, Lahore, and Delhi.

Wood-carving as an indigenous art is almost entirely architectural, being devoted to doors and doorways, balconies and bow windows. Apart from the hill work, which has a character of its own, the wood-carving of the Punjab may be divided into three styles: the earliest or Hindu, the Muhammadan, and the modern Sikh style. Examples of the Hindu work are to be seen principally in the large towns, particularly at Lahore. The forms used are fantastic, tassel shapes, pendants, and bosses being predominant; but the style, except for a very recent revival, may be said to be extinct. With the Muhammadans came the

development of lattice-work or *pinjra*, which is to this day the characteristic feature of Punjab wood decoration. Most of the old doorways and *bukhārchās* to be seen in frequent profusion in the old towns belong, broadly speaking, to this style of work. The Sikh style, the work of the present day, may be said to be a modern adaptation of the Muhammadan, with occasional Hindu influence underlying it. It is characterized by clear-cut carving, broad treatment, and as a rule fairly good joinery. The best wood-carvers are to be found at Amritsar, Bhera, Chiniot, and Batāla. Of late years the European demand has led to this handicraft being largely applied to small articles of decorative furniture.

Inlaid work is also of Muhammadan origin, and was probably introduced from Arabia. The chief centres are Hoshiārpur and Chiniot. The wood inlay-work of Hoshiārpur has a high local reputation, and is capable of considerable development. For many years pen-cases, walking-sticks, mirror-cases, and the low *chauki*, or octagonal table, common in the Punjab and probably of Arab introduction, have been made here in *shīsham* wood, inlaid with ivory and brass. Since 1880 tables, cabinets, and other objects have also been made, and a trade has sprung up which seems likely to expand.

Turned wood ornamented with lac in various combinations of colours is produced in almost every village. Pākpattan has more than a local reputation for this work, while a family in Ferozepore produces a superior quality.

Furniture after European patterns is made in every station and cantonment, the best-known centres being Gujrāt and Kartārpur in Jullundur District. Gujrāt is known for its wooden chairs, chiefly made of *shīsham*, the supply of which is abundant.

Ivory-carving is practically confined to the cities of Amritsar, Delhi, and Patiāla; but at the latter place it has greatly declined. Combs, essential to the attire of an orthodox Sikh, are made in large quantities at Amritsar, where paper-cutters and card-cases ornamented with geometrical open-work patterns, of some delicacy of execution but no great interest of design, are also made. The ivory-carving of Delhi is of a high order of excellence, and miniature painting on ivory is also carried on. Ivory bangles are turned in several Districts, the chief being Amritsar, Dera Ghāzi Khān, Gujrānwāla, Multān, and Lahore. Billiard-balls are made at Ludhiāna.

The manufacture of paper is now confined almost entirely to the jails. Siālkot was famous in Mughal and Sikh times for its paper, but the industry has greatly declined owing to the competition of jail-made and mill-made paper; and this is also the case at Multān. Gunny-bags, matting, rope, baskets, blinds, and the like are largely made of various fibrous plants all over the Province.

The decade ending 1900 witnessed a striking extension of industrial enterprise. In the cotton industry there were, in 1904, 114 steam factories for ginning and pressing cotton, compared with 12 in 1891, and 6 in 1881. The produce of these factories is still for the most part exported abroad, or to other Provinces in India. The Punjab contains eight cotton-spinning and weaving mills, of which six have been started since 1891, and a good deal of the Punjab-grown cotton is utilized in the Province. The following table shows their recent development:—

	Number of			Daily average of hands employed.
	Mills.	Looms.	Spindles.	
1900-1 . .	5	426	80,188	2,040
1903-4 . .	8	475	112,508	3,201

These mills have a nominal capital of 60 lakhs. The out-turn of yarn has steadily increased since 1895-6, but that of woven goods shows a tendency to decrease, as appears from the following figures, which give the out-turn in pounds:—

	1895-6.	1899-1900.	1900-1.	1901-2.	1903-4.
Yarn spun .	4,361,000	7,601,863	7,235,843	9,629,422	11,578,346
Goods woven .	91,254	705,408	404,258	272,695	64,927

The commonest counts spun are 13's, 11's, 15's, 16's, and 12's, in the order given, and these amounted to 8½ of the 9·6 million pounds spun in 1901-2. The goods woven are almost all grey. The estimated out-turn of cleaned cotton in 1903 was 104,496,400 lb., of which more than one-fourth was exported. While the Punjab is of considerable importance as a cotton-producing Province, the staple is short, varying from ½ to ¾ of an inch, and occupies a low position in the market.

The Egerton Woollen Mills, established at Dhārīwāl in 1880, are the only woollen mills in the Province. The company has a nominal capital of Rs. 12,00,000. Its progress is shown by the following figures:—

	1890-1.	1901.	1904.
Number of looms . .	115	128	264
,, spindles . .	4,564	4,320	6,708
,, hands employed	620	820	908

In 1903-4 the mills turned out broadcloths, blankets, greatcoats, serges, flannels, tweeds, *loīs* and shawls, travelling rugs, knitting yarns,

braids, Berlin wool, socks, caps, gloves, and other kinds of knitted goods to the amount of 572,061 lb., valued at Rs. 7,30,118. The native shawl-weaving industry and manufacture of *pattū* and blankets have not been much affected by foreign imports.

The Province contains eight breweries, from which nearly 2,000,000 gallons of malt liquors were issued in 1903–4. In 1904 there were 15 ice factories worked by steam, compared with 4 in 1891. The number of indigo factories decreased from 27 to 12. There were, in 1891, two distilleries for the manufacture of spirits according to the European method, but the number has now risen to six. In 1903–4, 273,102 gallons (London proof) of spirits were issued from these. Most of the spirit is made from sugar, but some is whisky distilled from barley malt.

There were 5 private iron foundries in 1904: namely, three at Delhi, one at Lahore, and one at Siālkot. Steel trunks and boxes are made in large numbers at Multān, Lahore, and Siālkot. At the place last mentioned surgical instruments are made by an enterprising firm. The most important iron-works, however, are the North-Western Railway workshops at Lahore.

Factory operatives are protected by the Indian Factories Act, revised rules under which were promulgated in 1892. The orders of the Inspectors have been enforced without difficulty, and very few prosecutions under the Act have been necessary. In 1892 there were 34 factories in which steam-power was used. The number has now risen to 175. While the conditions of labour of the mill operatives has been decidedly improved, it does not appear that there has been any tendency for wages either to rise or fall during the last ten years. The highest rates are paid in the Government workshops on the North-Western Railway, where many skilled mechanics are employed. The ordinary rates in private factories are 3 annas to 5 annas a day for male operatives; 2 annas to 4 annas for women and children; and from Rs. 30 to Rs. 60 a month for skilled mechanics.

The condition of skilled artisans in the indigenous industries of the Punjab, such as carpet-weavers, leather-workers, brass-workers, is not favourable. The capitalists in some cities formerly safeguarded their interests by a trade practice, according to which, when a workman left one employer for another, the second employer was held to be liable to the first to the extent of all advances received, and the thraldom of the artisan to the second employer was maintained. This trade practice has recently been declared illegal by several decisions of the Chief Court, and the growing competition among capitalists for the service of workmen is beginning to have its natural effect in strengthening the position of the artisan. The present transitional stage from the guild or caste system to the system of free competition between capital and labour

is one of much interest to the student of sociology. The change is, however, as yet only in its initial stages, and has scarcely affected the village artisans, who still receive their customary dues in kind, and are almost as much dependent on the nature of the harvests as the agriculturists themselves. In towns also the hereditary nature of many caste industries, and the tradition of preserving the trade secrets within the trade caste, still continue. The freedom to learn where and what one wills has not yet been obtained, but is being gradually brought about by the competition of capital for labour, by the industrial schools, and by the introduction of steam-power and factory labour, which, having no caste tradition, is open to all.

Commerce and trade.

Prior to annexation the Punjab proper had practically no trade with the rest of India. It had no surplus agricultural produce to export, and the anarchy which ensued on the decay of the Mughal empire was an effectual barrier to commercial enterprise. Ranjīt Singh's policy aimed at excluding British traders from his kingdom, while the earliest efforts of the British Government were directed to opening up the water-way of the Indus. Since annexation the security afforded to person and property, the improvement of communications, and above all the extension of canal-irrigation, have vastly developed the agricultural resources of the Province.

The main source of the wealth of the Punjab lies in its export of wheat, of which the largest amounts exported were 550,911 tons in 1891–2, 457,991 in 1894–5, 493,826 in 1898–9[1], 623,745 in 1901–2, 536,374 in 1902–3, and 877,022 in 1903–4. Next to wheat, raw cotton is the principal export, and besides wheat inferior grains are exported on a large scale, chiefly to Southern Europe. During the ten years ending 1900 the value of the agricultural produce exported exceeded that of the amount imported by an average of nearly 438 lakhs a year, a sum which considerably exceeds the total land revenue, with cesses and irrigation rates, levied in the Province.

Among imports, cotton piece-goods, European and Indian, stand first. The imports of the former fluctuate greatly. Valued at 218 lakhs in 1890–1, they had fallen to 190 lakhs in 1900–1, but rose to 253 lakhs in 1901–2, falling again to 231 lakhs in 1903–4. Indian-made piece-goods, however, tend to oust the European, the imports of the former having increased threefold in value between 1891 and 1904. In the case of twist and yarn this tendency is even more marked. The other considerable imports are iron and steel, sugar, wool (manufactured),

[1] All figures for years prior to 1900–1 on pp. 321–3 include the trade of the North-West Frontier Province, whether internal or external (i.e. within India or with other Asiatic countries, including Kashmīr), and those for the subsequent years its internal trade alone.

gunny-bags and cloth, dyes and tans, and liquors. Wheat and gram are also imported in times of scarcity. The well-to-do classes in the Punjab consume wheaten bread, even when wheat is at famine prices, and are not content with a cheaper grain. Hence the imports of wheat vary inversely with the out-turn of the local wheat harvest. In the prosperous year 1898–9 the value of the wheat imported was only 6 lakhs: the poor harvest of 1899–1900 raised it to 29 lakhs, and, the scarcity continuing into 1900–1, to over 41 lakhs in the latter year. Good harvests in 1901–2 and 1903–4 reduced it to 8 and 10 lakhs respectively. The import statistics of the coarser and cheaper food-grains, such as gram and pulse, are an index to the purchasing power of the poorer classes. Less than 8½ lakhs in value in 1898–9, the imports of these grains exceeded 87 lakhs in 1899–1900, falling to 39 lakhs in 1900–1 and 5½ in 1903–4. The figures show that in periods of acute distress the poorer classes are compelled to fall back on inferior grains, until better harvests and lower prices permit them to resume their wheaten diet.

The development of the export trade in wheat has created new centres of trade, in places favourably situated on the lines of communication, especially on the Southern Punjab Railway and on the line from Wazīrābād through the Chenāb Colony. Along the former large grain markets have been established at Rohtak, Kaithal, Bhatinda, and Abohar. The last named, ten years ago a petty agricultural village, has now become a considerable trade centre, and has attracted much of the wheat trade from Fāzilka. In the Chenāb Colony important trade marts have been established at Gojra, Lyallpur, Sāngla, Chiniot Road, and Toba Tek Singh. Kasūr in Lahore District has likewise benefited at the expense of Ferozepore. Imports are distributed chiefly through the cities and larger towns, such as Delhi, Lahore, Amritsar, and Multān. A Punjab Chamber of Commerce, with its head-quarters at Delhi, has recently been established.

The trading castes are the Khattrīs in the centre and north, the Baniās in the east, and the Aroras in the west. The village trader is the collecting and distributing agent, but he almost always combines money-lending with shopkeeping. Nearly every cultivator is his client, and to him much of the agricultural produce of the village is handed over at a low price, to liquidate debts which have sometimes accumulated for generations. To this, however, there are notable exceptions, the Sikh and Hindu Jats being often themselves keen traders. Moreover, in the case of wheat, the exporter often deals direct with the cultivator, and in the east of the Province many cultivators in the slack season fill their carts with produce and set out to sell it in the best market they can find. Most towns are centres for the collection of agricultural produce, and, as mentioned above, many

large grain markets have been established along the lines of rail. These usually have the advantage of being free from municipal octroi duties which, in spite of the system of refunds and bonded warehouses for goods in transit, more or less hamper commerce. No statistics are available to show the volume of this internal trade.

The trade outside the Province is almost entirely with other Provinces and States in India, the amount that comes over the passes from Central Asia being relatively insignificant. More than 90 per cent. of the recorded exports and a still higher proportion of the imports are carried by rail, the remainder being borne partly by rail and partly by boat on the Indus to and from Sind and Karāchi. The bulk of the trade of the Province is with Karāchi, which in 1903–4 sent 37 per cent. of the imports and received 54 per cent. of the exports. Bombay and Calcutta together accounted for 27 per cent. of the imports and 14 per cent. of the exports, and the United Provinces for 23 per cent. of the imports and 19 per cent. of the exports. Wheat, raw cotton, oilseeds, hides, raw wool, and a certain amount of inferior grains go to Karāchi, in exchange for cotton and woollen piece-goods, sugar, metals, and railway plant and rolling stock. The trade with the other seaport towns is on the same lines. Bombay takes a large amount of raw cotton, and sends silk, tea, and tobacco. Hides and skins, leather, dyes, and tans go largely to Calcutta, whence comes a great deal of the wearing apparel, jute, and woollen piece-goods imported. Cotton and woollen manufactured goods are exported to the United Provinces, which send sugar, coal and coke (from Bengal), *ghī*, gram, and pulse.

The trade with Kashmīr is partly by the Jammu-Kashmīr Railway, and partly by the roads leading into the Districts of Gurdāspur, Siālkot, Gujrāt, Jhelum, and Rāwalpindi in the Punjab and Hazāra in the North-West Frontier Province. In Table VII attached to this article (p. 385) the figures for 1903–4 exclude the trade through Hazāra, now a District of the North-West Frontier Province. The trade with Ladākh passes either through Kashmīr or over the Bāra Lācha (pass) into the Kulū subdivision of Kāngra. The chief imports from Kashmīr are rice and other grains, *ghī*, timber, oilseeds, manufactured wool, raw silk, hides and skins, and fruits; and the chief exports to Kashmīr are cotton piece-goods, wheat, metals, tea, sugar, salt, and tobacco. *Charas*, borax, and ponies are the principal imports from Ladākh, and metals and piece-goods are the chief exports thither.

The direct trade with countries beyond India is small, being confined to that with Chinese Tibet, and an insignificant trade with Kābul through Dera Ghāzi Khān. Trade from Chinese Tibet either comes down the Hindustān-Tibet road to Simla, or enters Kulū from Ladākh or through Spiti. The chief imports are raw wool and borax, and the

chief exports are cotton piece-goods and metals. The chief imports from Kābul are fruit, *ghī*, and raw wool; the chief exports are piece-goods, rice, leather, and sugar. The trade with Kābul, which passes down the main trade routes, as well as that with Tīrāh, Swāt, Dīr, Bājaur, and Buner, is registered in the North-West Frontier Province; much, however, passes through to the Punjab, and beyond it to the Lower Provinces of India.

Communications. The Punjab is well provided with railways. Karāchi, its natural port near the mouths of the Indus in Sind, is directly connected with the Punjab by the broad-gauge North-Western State Railway from Lahore. Delhi is in direct communication with Karāchi by another line passing through Rewāri and Merta Road Junctions, and also by the Southern Punjab Railway, which runs along the southern border of the Province to join the Karāchi line at Samasata. Karāchi has recently been brought into closer contact with Ludhiāna by the new branch of the Southern Punjab Railway from Ludhiāna via Ferozepore and McLeodganj Road. The north-west corner of the Province is directly connected with Karāchi by the branches of the North-Western Railway, which leave the main line at Campbellpur, Golra, and Lāla Mūsa and converge at Kundiān, whence the Sind-Sāgar branch follows the east bank of the Indus and joins the Karāchi branch at Sher Shāh. The new Wazīrābād-Khānewāl line taps the fertile Chenāb Colony in the Rechna Doāb and also connects with Karāchi via Multān. The Jech Doāb line commences from Malakwāl, a station on the Sind-Sagār branch of the North-Western Railway, and ends at the Shorkot Road station of the Wazīrābād-Khānewāl branch. Another small line is under construction from Shāhdara, 3 miles north of Lahore, to Sangla Hill on the Wazīrābād-Khānewāl Railway. It will serve as an outlet to the immense grain traffic in the interior of the Chenāb Colony.

In the east of the Province the country is covered with a network of branch lines, of which the Delhi-Umballa-Kālka, Simla-Kālka, Rājpura-Bhatinda, Bhatinda-Ferozepore, and Ludhiāna-Dhūrī-Jākhal are the most important. The Rewāri-Bhatinda-Fāzilka (metre-gauge) State Railway links up the important junction of Bhatinda with the Rājputāna-Mālwā line, which also connects with Delhi. The Delhi-Agra branch of the Great Indian Peninsula Railway has recently been opened. In the centre of the Province a branch of the North-Western Railway, recently opened, connects Amritsar with Patti, a town in Lahore District.

The oldest railway is that from Amritsar to Lahore, opened in 1862. That from Multān to Lahore linked up the capital with the Indus Flotilla in 1865; but it was not till 1878 that its extension north-westwards began, and only in 1883 was through communication from

Peshāwar to Calcutta and Bombay established. Meanwhile Amritsar and Rewāri had been linked with Delhi in 1870 and 1873 respectively; and, though no farther extensions were made till 1883, progress was rapid after that year. In 1891 the Province contained 2,189 miles of railway, which increased to 3,086 in 1901 and 3,325 miles in 1904. In the latest year the total was distributed under—broad gauge, 2,757 miles; metre gauge, 380; and narrow gauge, 198 miles.

The greater portion of the railways in the Punjab is worked by the North-Western State Railway, which included 2,585 miles on the broad gauge, and 138 on narrow gauges in 1904. In January, 1886, when the contract of the Sind, Punjab, and Delhi Railway Company expired, Government took over that line and amalgamated it with the Indus Valley, the Punjab Northern State Railways, and the Sind-Sagār branch into one imperial system called the North-Western State Railway. The Amritsar-Pathānkot Railway, which originally belonged to the Local Government, was transferred to the North-Western Railway in 1892. The Rājpura-Bhatinda, Ludhiāna-Dhūrī-Jākhal, and Jammu-Kashmīr Railways were built respectively by the Patiāla, the Māler Kotla and Jīnd, and the Kashmīr States, but are worked by the North-Western Railway, with which has also been amalgamated the Southern Punjab Railway. The management of the Kālkā-Simla Railway was taken over by the North-Western Railway on January 1, 1907.

The railways in the Punjab may be classed under two heads, commercial and military. The commercial section of the North-Western Railway cost on an average Rs. 1,32,000 per mile to construct, inclusive of the worked lines and the Amritsar-Pathānkot Railway. The worked lines cost on an average Rs. 55,000 per mile to construct, and the Amritsar-Pathānkot Railway Rs. 82,000 per mile. In 1904 the Punjab had one mile of rail to every 40 square miles of territory. The only Districts not yet traversed by a railway are Dera Ghāzi Khān, Kāngra, and Hoshiārpur. The strategical value of the railway system lies chiefly in the facilities it offers for the transport of troops to the north-west frontier of India; the commercial value lies mainly in the export of cotton, grain (especially wheat), and oilseeds to Karāchi. Combined with the canals the railways have revolutionized economic conditions, the former inducing the production of wheat on a vast scale, and the latter placing it on the world's markets. Further, their combined effect renders the Province, as a whole, secure from serious food-famines. In 1899–1900 the canal-irrigated tracts formed a granary whence grain was distributed by the railways. The railways also tend to equalize prices in all parts of the Province and from year to year, but it may be doubted whether by themselves they have raised prices generally. It is, however, true that they are tending to erase local

variations in speech, dress, manners, and customs, and to obliterate the few restrictions which the caste system in the Punjab imposes on the ordinary intercourse of daily life.

The chief road is a continuation of the grand trunk road, which, starting at Calcutta, runs through Northern India to Delhi. Thence, in the Punjab, it passes through Karnāl, Ambāla, Ludhiāna, Jullundur, Amritsar, Lahore, Jhelum, Rāwalpindi, and Attock, where it enters the North-West Frontier Province and ends at Peshāwar, with a total length of 587 miles, metalled and bridged throughout. The section from Karnāl to Ludhiāna was made in 1852, but that from Phillaur to the Beās was only completed in 1860–1. From the Beās to Lahore the road was opened in 1853, and thence to Peshāwar in 1863–4. It runs alongside the railway, and still continues to carry a certain amount of slow traffic. The other roads are mainly important as feeders to the railway system. On the north the chief routes are the Hindustān-Tibet road, which runs from the Shipki Pass on the frontier of the Chinese empire to the railway termini at Simla and Kālka; the Kāngra Valley cart-road, which brings down tea and other hill products to Pathānkot; the Dalhousie-Pathānkot road; and the Murree-Rāwalpindi road, which now forms the main route from Kashmīr. All these, except the Dalhousie road, are metalled, and all are practicable for wheeled traffic, except that part of the Tibet road which lies north of Simla. In the centre of the Province a metalled road runs in a loop from Lahore *via* Kasūr and Ferozepore to Ludhiāna, where it rejoins the grand trunk road. The other metalled roads are merely short feeders of local importance connecting outlying towns, such as Hoshiārpur and Kapūrthala, with the railways. As feeders and for local traffic unmetalled roads suffice for the requirements of the people, and the construction of metalled roads has accordingly been of recent years subordinated to that of railways, at least in the plains. Thus in 1880–1 the Province contained 1,381 miles of metalled roads; and though in 1900–1 the mileage had risen to 1,916, in 1903–4 it was only 2,054, compared with 20,874 of unmetalled roads. All roads, except 147 miles of strategic roads in Dera Ghāzi Khān District, are maintained from Provincial or District funds. Most of the important metalled roads are Provincial, while unmetalled roads are maintained by District boards, their metalled roads being often made over to the Public Works department for maintenance. The total annual expenditure on land communications is about 4 lakhs for original works, and 10 to 12 lakhs for repairs.

The chief means of transport of goods by road is the bullock-cart. This is a heavy substantial vehicle without springs or tires, and made by any village carpenter. It is drawn by a pair of bullocks at the rate of 2 miles an hour, and 10 to 15 miles are reckoned a fair day's

journey. It will stand the roughest usage and the worst roads, and only in the hills and in the sandy tracts does its weight render its use impossible. In the sandy deserts bordering on the Bīkaner desert, and in the Sind-Sāgar Doāb, including the Salt Range, the camel is the chief means of transport of merchandise, while in the Himālayas goods are carried on mules or by bearers. For passengers by road the light springless cart known as the *ekka* is the almost universal means of locomotion; it will carry four to six passengers, and go at the average rate of 5 miles an hour. On metalled roads, the 'tumtum,' a vehicle with springs not unlike a dog-cart, is much in use. On the important cart-roads to the hills regular passenger services are maintained by means of a two-wheeled carriage called a 'tonga,' drawn by two ponies; at every 4 miles there are stages at which ponies are changed, and journeys are performed at the rate of about 8 miles an hour. Regular services of bullock-carts are also maintained on these roads.

All the great rivers are navigable in the rains; and the Indus and the lower reaches of the Jhelum, Chenāb, and Sutlej are navigable throughout the year. Except on the Indus, timber is the most important article of commerce transported by this means. There is a considerable trade on the Indus with Sind. Navigation on all rivers is entirely by means of rude country craft, the Indus Steam Navigation Flotilla having ceased to exist some twenty years ago. The grand trunk road crosses the Rāvi, Jhelum, and Indus by roadways attached to the railway bridges, and the Chenāb by a footway; and roadways cross the Sutlej between Lahore and Ferozepore, and the Chenāb between Multān and Muzaffargarh. There is a bridge of boats on the Rāvi near Lahore; and the Indus is crossed by bridges of boats at Khushālgarh, Dera Ismail Khān, and Dera Ghāzi Khān, the two latter replaced by steam ferries in the summer. All the rivers are provided with ferries at frequent intervals, which are generally managed by the District boards.

The Districts and States of the Punjab (except the States of Chamba, Jīnd, Nābha, and Patiāla, which have their own postal arrangements) form, together with the North-West Frontier Province and Kashmīr, one postal circle under the Postmaster-General of the Punjab and North-West Frontier Province. It is divided into seventeen postal divisions. The table on the next page shows the advance in postal business in the Punjab during the two decades since 1880, giving also the figures for 1903–4. The figures exclude the North-West Frontier Province and also (for the most part) Kashmīr.

These figures include both the imperial and the local or District post. The latter system was a substitute for the posts which landowners were in early days bound to maintain for the conveyance of official correspondence in each District. As the District came under

settlement, this personal obligation was replaced by a cess levied on the land revenue, and eventually in 1883 the cess was merged in and became part of the local rate. The expenditure on the District post averaged Rs. 1,50,274 during the five years ending 1902–3, and in 1903–4 amounted to Rs. 1,42,253. In 1906 the cess was abolished, and the system was amalgamated with the imperial post. The value of the money orders paid during the year 1903–4 amounted to 329 lakhs, or nearly 102 lakhs more than the value of those issued.

	1880–1.	1890–1.	1900–1.	1903–4.
Number of post offices and letter-boxes	842	1,269	4,900	6,850
Number of miles of postal communication	8,397	9,474	13,512	15,318
Total number of postal articles delivered—				
Letters	16,990,413	18,589,127	26,935,983	27,544,764
Postcards	1,906,717	12,632,567	31,430,787	38,130,426
Packets	226,198	891,453	3,159,862*	3,441,282*
Newspapers	1,778,007	2,966,000	3,284,176†	3,181,412†
Parcels	199,764	252,332	423,098	536,224
Value of stamps sold to the public . Rs.	6,33,510‡	8,46,980‡	14,63,578	18,33,466
Value of money orders issued . . Rs.	66,30,053‡	1,20,69,110‡	2,42,07,579	2,27,01,278
Total amount of savings bank deposits Rs.	...	56,49,794	1,09,11,336‡	79,79,023

* Including unregistered newspapers. † Registered as newspapers in the Post Office. ‡ Including Kashmīr.

Famine.

The Punjab contains two main tracts which are not secure against drought: one in the south-east comprising most of the plains Districts of the Delhi Division and that of Ferozepore; the other, the Districts of Gujrāt, Jhelum, and Rāwalpindi in the north-west. The north-west of Gurdāspur and the Sharakpur and Ajnāla *tahsīls* (in Lahore and Amritsar Districts respectively) are also insecure. But hitherto famines have been frequent and severe only in the south-eastern tract, of which Hissār is the centre. This area lies on the edge of the sphere of influence of the south-eastern monsoon, and any deflexion of its currents leaves it almost rainless; but the Western Jumna and Sirhind Canals, especially the former, have greatly circumscribed the area liable to famine. In the north-west the rainfall, though liable to fail, is much less capricious than in the south-east, and here scarcity has never deepened into serious famine. Well-irrigation in the insecure tracts is largely impossible or unprofitable, owing to the depth of the water below the surface.

Generally speaking, the autumn crops used to provide the agricultural population in the Punjab with their staple food and most

of the fodder for the cattle, the spring crops being grown only for profit. To a great extent this still holds good, especially as regards fodder; but of late years the area under spring crops has greatly increased, and now, even in the insecure tracts, it almost equals that under autumn crops. The loss of a single harvest, or even of both the annual harvests, does not in itself necessitate measures of relief. Such measures are required only after a succession of lean years, and thus the point when failure of the monsoon spells famine can, as a rule, be accurately gauged. Besides a rise in prices, not always a very trustworthy sign, indications of the necessity for measures of relief are usually afforded by the contraction of private charity and credit, activity in the grain trade, increase in crime, and aimless wandering in search of employment or food.

The first famine in the Punjab of which any information exists occurred in 1783-4 (Samvat 1840), and is popularly called the *chālīsa kāl*, or 'famine of the year 40.' It affected the whole country from the Sutlej to Allahābād, and was acute in the neighbourhood of Delhi. Hariāna was desolated and the people perished or emigrated. The mortality must have been very great, and few villages now existing in this area boast a history anterior to the famine. Famine again occurred in 1833-4, 1837-8, 1860-1, 1868-9, 1877-8, 1896-7, and in 1899-1900. In 1833-4 the conditions were those of severe scarcity rather than of famine; and though there was suffering in Hissār and Rohtak Districts and the Fāzilka *tahsīl*, no relief, beyond large suspensions of revenue, was given. The scarcity was, however, the precursor of serious famine in 1837-8, when the tract between Allahābād and Delhi was most seriously affected, but Hissār, Rohtak, and Fāzilka also suffered. Relief works were opened for the able-bodied, but the relief of the infirm and helpless was left to private charity. The main features of this famine were the prevalence of aimless wandering and the extraordinary amount of violent crime.

The famine of 1860-1 affected only the Districts between the Jumna and the Sutlej, and was the result partly of the Mutiny, and partly of deficient rainfall in the two preceding years, followed by a failure of the monsoon in 1860. The principles adopted in 1833-4 were again followed. Gratuitous relief was given mainly in the form of cooked food.

Practically the same tract was again affected in 1868-9, but the great influx of famine-stricken immigrants from Rājputāna exhausted the resources of private charity. The principle that it was the duty of the people to relieve the infirm and weak had to be abandoned, and Government acknowledged its liability to supplement charitable aid. Large works under professional control and minor works under civil officers were also utilized for affording relief. The excess mortality in

Rājputāna and the Punjab was estimated at 1,200,000. About 3 lakhs of revenue was remitted in the Punjab.

The great famine of 1877–8 hardly reached this Province, in which only scarcity existed. Fāzilka and the Districts of the Delhi Division, which were not protected by irrigation, suffered most.

After 1878, in spite of occasional short harvests, the Punjab had a respite from actual scarcity till 1896–7. In 1895 the monsoon ceased early in August, and a poor autumn harvest was followed by a deficient spring crop in 1896. In the latter year failure of the monsoon caused widespread scarcity in the Punjab, as in other parts of India. The whole of the Delhi Division, except Simla, and parts of the Lahore and Rāwalpindi Divisions were affected. A total of $22\frac{1}{2}$ million day-units were relieved, of whom half were in Hissār. Relief cost $22\frac{1}{3}$ lakhs, 22 lakhs of land revenue was suspended, and at the close of the famine $11\frac{1}{2}$ lakhs was advanced for the purchase of seed and cattle. After one good year the monsoon failed again in 1898 and 1899, and famine supervened in the same tracts. The scarcity of fodder caused immense mortality among cattle, and the distress among the people was intense. Relief was afforded to 52 million day-units at a cost of 48 lakhs. In addition, 44 lakhs of land revenue was suspended, and 19 lakhs granted for the purchase of seed and cattle as soon as favourable rain fell in the autumn of 1900. The Charitable Relief Fund also allotted 12 lakhs to the Punjab. Hissār was again the most deeply affected tract, accounting for two-thirds of the numbers relieved.

Of recent years the immediate effects of scarcity on the population of the Province have been practically negligible. The famine of 1899–1900, the most severe since annexation, affected the health of the people, so that many were unable to withstand disease which under more favourable circumstances might not have proved fatal. It might have been anticipated that the two famines of the decade ending 1900 would have appreciably affected the population in Hissār and Rohtak Districts, but the Census of 1901 showed an increase of nearly 10 per cent. in the latter. Generally speaking, as regards mortality, the after-effects of famine are almost more potent than famine itself. Practically no deaths from actual starvation were recorded in the Punjab in the recent famines. During famine cholera is most to be feared; but when famine ceases, after a plentiful monsoon, malaria, acting on a people whose vitality has been reduced by privation, claims a long tale of victims. At such seasons the mortality is naturally greatest among the very old and the very young. This is shown by the fact that, at the recent Census, Hissār returned only 999 children under five in every 10,000 of its population, compared with the Provincial ratio of 1,340. This paucity of children, however, is to some extent due

to a diminished birth-rate. The famine of 1899–1900 lasted exactly thirteen months from September, 1899. Up to December the birth-rate was fairly normal, but after that month it rapidly declined until the close of the famine. In July, 1900, it was only 22·3 per 1,000, as compared with 40·5, the annual average for the month in the five years 1891–5. On the other hand, the re-establishment of normal conditions, after famine, is followed by an abnormally high birth-rate. Thus, in Hissār, famine ended in August, 1897. Up to July, 1898, the birth-rate remained low; but it then rose rapidly and remained well above the average until September, 1899, the highest figures occurring in October and November, 1898, when they reached 81·7 and 76·7 per 1,000, as compared with 57 and 50·8 respectively, the averages for those two months in 1891–5.

Whether it will ever be possible to render the Punjab free from liability to famine is a difficult question at present to answer. The two great remedies are the extension of railways and irrigation. As to the former, from the point of view of famine protection, the Province is as a whole well off, and further schemes are in hand for facilitating distribution of the immense surplus stocks produced in the large canal colonies. As to the latter, much has been done and much more is in contemplation. The Chenāb and Jhelum Canals, by rendering cultivable vast areas of waste, have been of incalculable help in reducing the pressure on the soil in the most thickly populated Districts, and in increasing the productive power of the Province; but, until the insecure tracts themselves are rendered safe by the extension to them of irrigation, scarcity and famine must be apprehended. The new Upper Jhelum, Upper Chenāb, and Lower Bāri Doāb Canals have been described above (pp. 304–5).

Administration.

On the annexation of the Punjab in March, 1849, a Board of Administration was constituted for its government. The Board was abolished in February, 1853, its powers and functions being vested in a Chief Commissioner, assisted by a Judicial and a Financial Commissioner. After the transfer of the Delhi territory from the North-Western (now the United) Provinces, the Punjab and its dependencies were formed into a Lieutenant-Governorship, Sir John Lawrence, then Chief Commissioner, being appointed Lieutenant-Governor on January 1, 1859. In this office he was succeeded by Sir Robert Montgomery (1859), Sir Donald McLeod (1865), Sir Henry Durand (1870), Sir Henry Davies (1871), Sir Robert Egerton (1877), Sir Charles Aitchison (1882), Sir James Lyall (1887), Sir Dennis Fitzpatrick (1892), Sir Mackworth Young (1897), Sir Charles Rivaz (1902), Sir Denzil Ibbetson (1907), and Sir Louis Dane (1908).

In 1866 the Judicial Commissioner was replaced by a Chief Court.

A Settlement Commissioner was shortly afterwards appointed to supervise the land revenue settlements; but this office was abolished in 1884, and a Second Financial Commissioner appointed. In 1897, however, the old arrangement was reverted to, a Settlement Commissioner replacing the Second Financial Commissioner.

The direct administrative functions of Government are performed by the Lieutenant-Governor through the medium of a Secretariat, which comprises a chief secretary, a secretary, and two under-secretaries. These are usually members of the Indian Civil Service. The following are the principal heads of departments: the Financial Commissioner, the Inspector-General of Police, the Director of Public Instruction, the Inspector-General of Prisons, the Inspector-General of Civil Hospitals, the Sanitary Commissioner, the Conservator of Forests, the Accountant-General, and the Postmaster-General. The last two represent Imperial departments under the Government of India. The heads of the two branches (Irrigation, and Roads and Buildings) of the Public Works department are also *ex-officio* secretaries to Government, and the heads of the Police and Educational departments are similarly under-secretaries in their respective departments. The Financial Commissioner, who has a senior, a junior, and an assistant secretary, controls the Settlement Commissioner, the Commissioner of Excise (also Superintendent of Stamps), the Director of Agriculture, the Director of Land Records (also Inspector-General of Registration), and the Conservator of Forests. He is also the Court of Wards for the Province.

The civil administration is carried on by the Punjab Commission, a body of officers now recruited exclusively from the Indian Civil Service, though prior to the constitution of the North-West Frontier Province one-fourth of the cadre was drawn from the Indian Staff Corps. The Commission is supplemented by the Provincial Civil Service, which is recruited in the Province either by nomination, or by examination, or by a combination of the two, and is almost entirely of Punjābi origin. With a few exceptions, the higher appointments in the administration are held exclusively by members of the Punjab Commission, while members of the Provincial service, who are graded as Extra or as Extra-Judicial Assistant Commissioners, perform the functions of District judges, magistrates, and revenue officials. The minor posts in the administration are held by the Subordinate services, which are recruited entirely from natives of the Province.

The territories under the control of the Lieutenant-Governor consist of 29 Districts, grouped into 5 Divisions, and 43 Native States. Each District is in charge of a Deputy-Commissioner, who is subordinate to the Commissioner in charge of the Division. A District is divided into sub-collectorates called *tahsīls*, varying in number as a rule from

three to seven, each under a *tahsīldār* with a *naib* (deputy)-*tahsīldār*. Of the 29 Districts, Kāngra, with an area of 9,978 square miles, is the largest, and Simla, in area less than the county of London, the smallest. The average District corresponds in size with one of the larger English counties. In population Lahore, with 1,162,109, is the largest, and Simla, with 40,351, again the smallest District. The average population of a District is 701,046. Particulars regarding each Division, District, and State will be found in Table III on pp. 380–1. For purposes of criminal, civil, and revenue jurisdiction, the District is the unit of administration. The Deputy-Commissioner (as the officer in charge of a District is designated, the Punjab being a non-Regulation Province) is Collector, with judicial powers in revenue suits, and also District Magistrate, being usually invested as such with power to try all offences not punishable with death. The District staff includes a District Judge, whose work is almost entirely civil, though he is also ordinarily invested with magisterial powers, which he exercises in subordination to the District Magistrate. It also includes from three to seven Assistant or Extra-Assistant Commissioners, with criminal, civil, and revenue powers, of whom one is in charge of the treasury. It further includes one or more Munsifs or civil judges. The *tahsīldārs* are invested with revenue, criminal, and civil powers, and their assistants, the *naib-tahsīldārs*, with revenue and criminal powers. In ten Districts there are subdivisions, each consisting of one or two outlying *tahsīls*, in charge of an Assistant or Extra-Assistant Commissioner, who resides at the headquarters of his jurisdiction. Lahore city also forms a subdivision, and subdivisional officers are posted to the hill stations of Murree and Dalhousie during the hot season. As a rule, however, there is no intermediate link between the District and the *tahsīl*. In two *tahsīls* a sub-*tahsīl* exists in charge of a *naib-tahsīldār*. The *tahsīldār* has under him from two to five field *kānungos*, each of whom supervises twenty to thirty *patwāris* or revenue accountants, in charge of the revenue records of a group of villages. Each village has one or more headmen, who collect the revenue, and *chaukīdārs* or watchmen. In most Districts the villages are grouped into circles or *zails*, each under a non-official (*zaildār*) of local influence, whose duty it is to render general assistance to all Government officials. Commissioners of Divisions now exercise judicial powers only in revenue appeals, their civil and criminal jurisdiction having been transferred to the Divisional and Sessions Judges.

The Native States under the control of the Lieutenant-Governor of the Punjab are 43 in number, comprising an area of 36,532 square miles, and a population in 1901 of 4,424,398 persons, as shown in Table III on pp. 380–1, with a total revenue of 155 lakhs. Kashmīr, formerly included among the Punjab States, was placed under the direct political control of the Government of India in 1877. Of the 43 States,

the three Phūlkiān States (Patiāla, Jīnd, and Nābha) and Bahāwalpur are in charge of a Political Agent under the direct control of the Lieutenant-Governor of the Punjab; Chamba is under the Commissioner of Lahore; Kapūrthala, Farīdkot, Māler Kotla, Mandī, and Suket are under the Commissioner of Jullundur; Sirmur, Kalsia, Dujāna, Pataudi, and Lohāru are under the Commissioner of Delhi; and the 28 Simla States are under the control of the Deputy-Commissioner of Simla, as *ex-officio* Superintendent, Simla Hill States.

The relations of the British Government with Bahāwalpur are regulated by treaty; those with the other States by *sanads* or charters from the Governor-General. The States of Patiāla, Bahāwalpur, Jīnd, Nābha, Kapūrthala, Sirmūr, Farīdkot, and Māler Kotla maintain Imperial Service troops. The other States and also Kapūrthala pay a money tribute, amounting in 1903-4 to a total of Rs. 2,66,434. The States of Patiāla, Jīnd, and Nābha are ruled by members of the Phūlkiān family; and should there be a failure of direct heirs in any of them, the *sanads* provide for the selection of a collateral as successor by the chiefs of the other two States. A *nazarāna* or relief is payable to the British Government by the collateral who succeeds. The Phūlkiān chiefs, and also the Rājā of Farīdkot, are bound by *sanad* to execute justice and to promote the welfare of their people; to prevent *satī*, slavery, and female infanticide; to co-operate with the British Government against an enemy, and to furnish supplies to troops; and to grant, free of expense, land required for railways and imperial lines of road. On the other hand, the British Government has guaranteed them full and unreserved possession of their territories. They, with Bahāwalpur and Kapūrthala, differ from the remaining feudatories in the fact that they possess power to inflict capital punishment upon their subjects. The treaties with Bahāwalpur define the supreme position of the British Government, and bind the Nawāb to act in accordance with its wishes, while in turn the British Government engages to protect the State. *Sanads* of varying import are also possessed by the minor feudatories.

Of the chiefs, those of Bahāwalpur, Māler Kotla, Pataudi, Lohāru, and Dujāna are Muhammadans; those of Patiāla, Jīnd, Nābha, Kapūrthala, Farīdkot, and Kalsia are Sikhs; and the rest are Hindus. Of the Muhammadan chiefs, the Nawāb of Bahāwalpur is head of the Daudputra tribe, being a descendant of Bahāwal Khān, who acquired independence during the collapse of the Sadozai dynasty of Afghānistān early in the nineteenth century. The Nawāb of Māler Kotla is a member of an Afghān family which came from Kābul about the time of the rise of the Mughal empire; his ancestors held offices of importance under the Delhi kings and became independent as the Mughal dynasty sank into decay. The chiefs of Pataudi and Dujāna are descended from Afghān adventurers, and the Nawāb of Lohāru

from a Mughal soldier of fortune, upon whom estates were conferred by the British Government as a reward for services rendered to Lord Lake in the beginning of the nineteenth century.

With one exception (Kapūrthala), the Sikh chiefs belong to the Jat race. Chaudhri Phūl, the ancestor of the Phūlkiān houses (Patiāla, Jīnd, and Nābha), died in 1652. His descendants took advantage of the break-up of the Mughal empire in the eighteenth century, and of the confusion which attended the successive Persian, Afghān, and Marāthā invasions of Delhi, to establish themselves, at the head of marauding bands of Sikh horsemen, in the Mughal province of Sirhind, and eventually rose to be independent chiefs. The Rājā of Kapūrthala claims Rājput origin, and his ancestor, Jassa Singh, took rank among the Sikh Sardārs about 1750. The founder of the Farīdkot family, a Barār Jat by tribe, rose to prominence in the service of the emperor Bābar. Jodh Singh founded the Kalsia State about the same time. The remaining chiefs, whose territories lie among the Outer Himālayan hill ranges, are principally of Rājput descent, claiming a very ancient lineage.

The rulers of Patiāla, Farīdkot, Jubbal, Bāghal, Kanethi, Mailog, Kunihār, Bījā, Madhān, Dhādi, Tharoch, and Kuthār were minors in 1906[1]. The chiefs of Māler Kotla and Kumhārsain are of unsound mind, the Rājā of Bashahr is of weak intellect, and the Rājā of Bilāspur was in 1903–4 temporarily deprived of his powers as a ruling chief for misconduct. The State of Patiāla is administered by a council of regency, composed of a president and two members; and an English guardian and tutor supervises the education of the Mahārājā. The administration of Farīdkot is conducted by a council, presided over by an Extra-Assistant Commissioner deputed by Government. Māler Kotla is administered by the heir apparent. In Bījā, Kunihār, Mailog, and Madhān the administration is carried on by councils of State officials; in Dhādi it is in the hands of a relative of the chief, and in Tharoch in those of the *wazīr*. Bilāspur, Jubbal, Bashahr, Kumhārsain, and Kanethi are administered by native officials of the British service deputed by Government. In Bāghal the council consists of a brother of the late chief and an official deputed by Government, while in Kuthār the manager is a member of the ruling family of Suket.

Legislation and justice.

By the Punjab Laws Act of 1872 custom governs all questions regarding succession, betrothal, marriage, divorce, the separate property of women, dower, wills, gifts, partitions, family relations such as adoption and guardianship, and religious usages or institutions, provided that the custom be not contrary to justice, equity, or good conscience. On

[1] The Nawāb of Bahāwalpur died at sea in February, 1907, while returning from a pilgrimage to Mecca. He left a son two years of age.

these subjects the Muhammadan or Hindu law is applied only in the absence of custom.

A Legislative Council was created for the Punjab in May, 1897, consisting of the Lieutenant-Governor and not more than nine members nominated by him, of whom five were non-officials in 1904. The members do not as yet possess the rights of interpellation and of discussing the Provincial budget, which have been granted to the Councils of the older Provinces. The following are the chief legislative measures specially affecting the Punjab which have been passed since 1880:—

Acts of the Governor-General in (Legislative) Council.

The Punjab University Act, XIX of 1882.
The District Boards Act, XX of 1883.
The Punjab Municipal Acts, XIII of 1884 and XX of 1890.
The Punjab Courts Act, XVIII of 1884 (as amended by Acts XIII of 1888, XIX of 1895, and XXV of 1899).
The Punjab Tenancy and Land Revenue Acts, XVI and XVII of 1889.
The Government Tenants Punjab Act, III of 1893.
The Punjab Land Alienation Act, XIII of 1900.

Regulations of the Governor-General in (Executive) Council.

The Frontier Crimes Regulations, IV of 1887, IV of 1889, and III of 1901.
The Frontier Murderous Outrages Regulation, IV of 1901.

Acts of the Punjab Legislative Council.

The Punjab General Clauses Act, I of 1898.
The Punjab Riverain Boundaries Act, I of 1899.
The Punjab Land Preservation (*Chos*) Act, II of 1900.
The Punjab Descent of *Jāgīrs* Act, IV of 1900.
The Sind-Sāgar Doāb Colonization Act, I of 1902.
The Punjab Steam Boilers and Prime Movers Act, II of 1902.
The Punjab Military Transport Animals Act, I of 1903.
The Punjab Court of Wards Act, II of 1903.
The Punjab Pre-emption Act, II of 1905.
The Punjab Minor Canals Act, III of 1905.

The supreme civil and criminal court is the Chief Court, which consists of five Judges, of whom one at least must, under section 4 of the Punjab Courts Act, XVIII of 1884, be a barrister of not less than five years' standing. The Court has from time to time been strengthened by the appointment of temporary Additional Judges, who numbered four in 1906. Of the five permanent judges, three are members of the Indian Civil Service, one is an English barrister, and one an Indian pleader.

Subordinate to the Chief Court are the Divisional and Sessions Judges, each exercising civil and criminal jurisdiction in a Civil and Sessions division comprising one or more Districts. As Divisional Judges, these officers try most of the appeals in civil suits from the

courts of first instance. As Sessions Judges, they try sessions cases, with the aid of assessors, and hear criminal appeals. Thus the Divisional and Sessions Judges in the Punjab fulfil the functions of District and Sessions Judges in the Regulation Provinces. Appeals in minor civil suits from the Munsifs' courts are heard by the District Judge, whose court is also the principal court of original jurisdiction in the District. The Divisional and Sessions courts are established under Act XVIII of 1884, which also provides for the appointment of Subordinate Judges (exercising unlimited civil jurisdiction) and Munsifs. The latter are of three grades, the jurisdiction of a first-grade Munsif being limited to suits not exceeding Rs. 1,000 in value. There are Small Cause Courts at Lahore, Amritsar, Delhi, and Simla, and many Munsifs are invested with the powers of such courts under Act IX of 1887.

Relatively to the population, the Punjab may be called the most litigious Province in India. In 1901 the number of suits instituted was 11·4 per 1,000 of the population, the next highest figure being 9·6 in Bombay. During the last few years, however, the annual number of suits has declined considerably, from 227,284 in 1900 to 156,354 in 1905. In the year 1904–5 alone there was a decline of no less than 26 per cent., due mainly to an amendment in the law which extended the period of limitation in suits for the recovery of money lent from three to six years. The Punjab Alienation of Land Act of 1900 has also had a considerable effect in checking litigation between money-lenders and agriculturists. Suits of this class show a falling-off of nearly 42 per cent. in the first five years (1901–5) during which the Act was in force. The question of codifying the customary law has of late years attracted some attention. An attempt has been made to codify the custom as to pre-emption in the Pre-emption Act II of 1905, but it is not possible to say at present what the ultimate effect of that Act will be. During its first year it stimulated litigation to some extent.

The District Magistrate is ordinarily (and Additional District and subdivisional magistrates and other magistrates with full powers are occasionally) invested with power to try all offences not punishable with death,,and to inflict sentences up to seven years' imprisonment. Further, in the frontier District of Dera Ghāzi Khān and in Miānwāli an offender may be tried by a council of elders under the Frontier Crimes Regulation, and in accordance with its finding the Deputy-Commissioner may pass any sentence of imprisonment not exceeding fourteen years ; but sentences exceeding seven years require the confirmation of the Commissioner, who has also a revisional jurisdiction in all cases.

The litigious spirit of the people is illustrated by their readiness to

drag their petty disputes into the criminal courts. About one-third of the charges preferred are ultimately found to be false. In a normal year the number of true cases is about 5 per 1,000 of the population, but this figure naturally fluctuates from year to year. A season of agricultural depression will cause an increase in crime against property and a decline in the number of petty assault cases, the prosecution of which is a luxury reserved for times of prosperity. The commonest form of crime is cattle-lifting, which is rife in the South-Western Punjab and in those Districts of the Eastern Punjab which border on the United Provinces and Rājputāna. Crimes of violence, generally arising out of quarrels connected with women or land, are commonest among the Jat Sikhs of the Central Punjab and the Musalmān cultivators of the northern Districts. Offences relating to marriage have increased during the last five years, probably owing to the ravages of plague, which has caused a proportionately higher mortality among females than among males, and has thus enhanced the value of the surviving women. The same cause has led to an increase in civil suits relating to women. In an average year about 250,000 persons are brought to trial, about 27 per cent. being convicted.

All sentences imposed by magistrates of the second and third classes are appealable to the District Magistrate; and in 1904, out of 28,564 persons sentenced by them, 34 per cent. appealed and 36 per cent. of these appeals were successful. Sentences imposed by District Magistrates and magistrates of the first class are, as a rule, appealable to a Sessions Judge; and in 1904, out of 21,336 persons sentenced by those courts, 32 per cent. appealed, and of these appeals 37 per cent. were successful. Sentences imposed by Courts of Sessions, and those exceeding four years passed by District Magistrates, are appealable to the Chief Court; and in 1904, out of 1,799 persons so sentenced, 61 per cent. appealed, with success in 28 per cent. of the appeals.

Of the 6,618 civil appeals filed in the courts of District Judges in 1904, 38 per cent., and of the 9,591 filed in the Divisional Courts, 26 per cent. were successful; but of the 2,374 filed in the Chief Court, only 9 per cent. succeeded.

The revenue courts established under the Punjab Tenancy Act are those of the Financial Commissioner, Collector (Deputy-Commissioner), and Assistant Collectors of the first grade (Assistant or Extra-Assistant Commissioners), and Assistant Collectors, second grade (*tahsīldārs* and *naib-tahsīldārs*). These courts decide all suits regarding tenant-right, rent, and divers cognate matters, in which the civil courts have no jurisdiction. Appeals from Assistant Collectors ordinarily lie to the Collector, from him to the Commissioner, and from the Commissioner to the Financial Commissioner, with certain limitations.

The Registration Act was extended to the Punjab in 1868. All Deputy-Commissioners are *ex-officio* registrars and all *tahsīldārs* are sub-registrars under the Act, but most of the registrations are performed by non-official sub-registrars, remunerated by a percentage of fees. General control over them is exercised by the Inspector-General of Registration. The figures below are for the old Province up to 1900–1 ; those for 1904 are for the Province as now constituted.

	1880–1 to 1889–90 (average).	1890–1 to 1899–1900 (average).	1900–1.	1904.
Number of offices .	221	277	297	266
Number of documents registered . .	70,994	129,067	134,906	75,573

Finance.

Under Sikh rule revenue was realized from all known sources of taxation, direct and indirect. Land, houses, persons, manufactures, imports and exports, alike contributed to the income of the Khālsa under Ranjīt Singh. The outlying provinces, in which revenue could be levied only by a military force, were farmed out to men of wealth and influence, who exercised powers of life and death without interference from the court of Lahore, so long as their remittances to the royal treasury were made regularly. The revenue from districts nearer Lahore and more completely under control was collected by local tax-gatherers, called *kārdārs*, whose more important proceedings were liable to review by the ministers of the Mahārājā. The salt revenue was realized by a sale of the monopoly.

Under this system the country was, on the whole, wonderfully prosperous. Every Jat village sent recruits to the Sikh army, who remitted their savings to their homes ; and many a heavily assessed village thus paid half its land revenue from its military pay. Money circulated freely, manufactures and commodities were in brisk demand, and commerce flourished despite the burden of taxation. From land revenue Ranjīt Singh raised 165 lakhs, partly in cash and partly, or mostly, in kind. From excise he realized 2 lakhs. In the Province generally the dual system of realizing the land revenue remained in force till 1847, and to a much later period in the Native States and great *jāgīrs*. During the regency, however, from 1845 to 1849, summary revenue settlements were made ; and on annexation the assessments thereby imposed were maintained as a temporary measure, quinquennial settlements being made in tracts which had not been assessed. The customs and excise systems were also reformed, and in the year after annexation coin of British mintage replaced the old currency, 50 lakhs of which were withdrawn from circulation.

The estimated revenue for 1849–50 was as follows: land revenue (including grazing tax, income from forests, gold-washing, iron mines, and rents of lands), 152 lakhs; excise (on salt, liquors, and drugs), including stamps and canal water rate, 26 lakhs; tributes, 5 lakhs; post office, 3½ lakhs; and miscellaneous receipts, 3½ lakhs—a total of 190 lakhs. After the Mutiny of 1857 the Delhi and Hissār Divisions were added to the Punjab, increasing its revenue by 66·2 lakhs.

All items of revenue other than those derived from purely local sources, such as District and municipal funds, fall into one or other of two classes. They may be treated as Provincial, in which case they are at the disposal of the Local Government, or as Imperial, in which case a portion returns into the Province in the form of payments, the balance being absorbed into the Imperial exchequer (see chapter on Finance, Vol. IV, ch. vi). Since 1871 the financial relations of the Local and Supreme Governments have been regulated by periodical settlements. This arrangement consists in the assignment for Provincial uses of the entire income under certain heads of revenue and a fixed proportion of income under others, termed 'shared heads.'

Under the first Provincial settlement the total receipts rose from 284·44 lakhs (Provincial share 51·39) to 335·01 lakhs in 1882 (Provincial share 80·25), owing to the rapid growth of stamps and excise revenue. In the same period expenditure rose from 179·14 to 216·06 lakhs (the Provincial share rising from 116·57 to 133·85 lakhs), owing to the development of the departments transferred to Provincial control. The Provincial income and expenditure during the quinquennium averaged 65·13 and 129·31 lakhs respectively, compared with 49·22 and 120·11 lakhs estimated in the contract. The Provincial balance was 29·63 lakhs in 1882. Under the second settlement Provincial received 40·7193 per cent. of the land revenue, and was made liable for the same proportion of the cost of settlement and survey operations, and refunds of land revenue. Half the receipts and expenditure under forests became Provincial, and the same division was made of stamps, excise, and registration, formerly wholly Provincial, while half the licence tax collections also became Provincial. On the other hand, the pay of Civil Surgeons and other charges devolved on Provincial. Under this settlement the receipts rose from 344·37 to 351·54 lakhs (Provincial from 140·35 to 150·68 lakhs), while expenditure fell from 237·03 to 218·12 lakhs, but the Provincial share of this rose from 146·36 to 155·77 lakhs. The Provincial income and expenditure averaged 146·84 and 152·98 lakhs respectively, as compared with the estimates of 144·90 and 144·94 lakhs, leaving the balance at 17·36 lakhs, or 7·36 more than the minimum reserve prescribed in

1887. The settlement was renewed on the same terms for the third quinquennium, during which the income rose from 361·03 to 414·50 lakhs (Provincial from 151·93 to 168·30 lakhs), and the expenditure from 224·53 to 245·19 lakhs (Provincial from 153·04 to 175·17 lakhs). The Provincial income and expenditure averaged 160·66 and 162·05 lakhs respectively, compared with the estimates of 144·90 and 144·94 lakhs, while the Provincial balance rose to 27·71 lakhs. The cost of certain measures, of which the most important was the reorganization of the Punjab Commission at a cost of 2·27 lakhs a year, was met by assignments from Imperial.

Under the fourth settlement the Provincial shares were fixed as follows: land revenue 25, stamps 75, and excise 25 per cent. Half the income tax, hitherto wholly Imperial, also became Provincial. The income rose from 421·92 to 473·10 lakhs (Provincial from 134·91 to 142·27 lakhs), chiefly under land revenue (9·43 lakhs), stamps (2·88), excise (1·86), income tax (0·80), registration (0·95), and irrigation (2·20), to take the annual averages. Expenditure increased from 248·22 to 284·20 lakhs (Provincial from 180·39 to 185·34 lakhs), owing to larger outlay on public works, maintenance of canals, salaries and expenditure of civil and political departments, and famine relief. Survey and settlement charges, hitherto shared, became Provincial, raising the total of expenditure. The Provincial income and expenditure averaged 139·49 and 179·41 lakhs respectively, as compared with the contract figures of 132·19 and 167·24 lakhs; but the settlement affected the finances of the Province adversely, and the quinquennium closed with a balance of 5·23 lakhs, or hardly more than half the prescribed minimum.

The fifth settlement made in 1897 was afterwards extended to 1904–5. It was modified in details in consequence of the separation of the North-West Frontier Province in 1901, but the general terms remained unaltered. Famine (which commenced in November, 1896) and plague (which broke out early in 1897) led to diminished receipts and larger outlay, resulting in a complete collapse of the Provincial finances, which had to be supported by special grants from Imperial funds. Famine cost 54·70 lakhs and plague 6·58 lakhs during the quinquennium 1897–1901. Miānwāli District was created, and the Chenāb and Jhelum Colonies extended. In 1902–3 arrears of land revenue, aggregating 39·30 lakhs, were remitted, and loans to agriculturists, amounting to 9·06 lakhs, were written off in that and the following year. In 1902–3 the Supreme Government contributed 3·80 lakhs for extensive measures against plague, over and above the ordinary plague expenditure from Provincial funds. In that year the income was 519·36 lakhs, and the expenditure 299·65 lakhs (Provincial 219·23 and 208·94 lakhs respectively). Financially, the conditions in the

Punjab since 1897 have been so abnormal that analysis of the figures for 1897–1903 would serve no useful purpose.

From April 1, 1905, the new Provincial settlement came into effect. Its noticeable features are :—

(1) Permanency—leaving the Province to enjoy the fruits of its economy, unless grave problems of Imperial interest call for assistance from Local Governments; (2) in the case of 'shared heads' the expenditure is divided between Imperial and Provincial in the same proportion as in the case of corresponding heads of income, except land revenue, the expenditure (31·04 lakhs) under which is entirely Provincial, while the Provincial share of the income is three-eighths (95·58 lakhs); (3) the Local Government obtains, for the first time, a direct financial interest in 'major' irrigation works, three-eighths of the income (62·89 lakhs) and expenditure (37·74 lakhs), which includes interest on capital outlay 15·62 lakhs, having been assigned subject to a guarantee of a net income of 28 lakhs per annum.

Since the settlement was sanctioned the famine cess (Provincial rates) has been abolished, and a compensatory assignment of 6½ lakhs per annum given to Provincial. Recoveries from District funds on account of District Post charges were waived and the Patwāri cess abolished from April 1, 1906, and the cantonment police provincialized from April 1, 1905, lump assignments aggregating 17·83 lakhs being given as compensation. Famine expenditure did not enter into the Provincial settlement, and the question of its distribution is now under consideration.

Land revenue.

Prior to annexation, the character of the land tenures throughout the Punjab was very indefinite and varied considerably from place to place. Usually, however, cultivation was carried on by a number of independent groups of persons scattered at uncertain intervals throughout the cultivable area of the country. Each of these groups was, or believed itself to be, sprung from a common stock, and the area it cultivated was known as a village or *mauza*, while the cultivators lived together on a common village site. When the crops were cut, a part of the produce was handed over to the village menials in payment for their services, and the rest was divided between the state and the cultivator. In many cases the state share was taken by some magnate or court official to whom it had been assigned; and there would often be some man of local influence who, from his character or traditional claims, was in a position to attend at the division of the grain heap and demand a small share for himself. When an assignee or intermediary claimant was strong enough, he would break up the waste, settle cultivators, and otherwise interfere in the village arrangements; but he seldom, if ever, ousted the cultivator so long as the latter tilled his

land and paid his dues. The land itself was very rarely transferred, and when a transfer did take place it was almost always to some relation or member of the village community.

On annexation the three duties which fell on the land revenue officials were the determination and record of rights in the land, the assessment of the land, and the collection of the revenue; and the same duties continue to constitute the main features of the land revenue administration at the present day.

A great deal of time and anxiety were expended in the early days of British rule over the determination of the various parties who had rights to the soil, and more particularly over the question of ownership, the persons recorded as owners being as a rule made responsible for the revenue. In many cases, more especially in the south and west of the Province, intermediaries of the kind above noticed were admitted to have superior claims to the proprietary right; but in most instances the cultivators were held to be the owners of the village lands, either jointly or in severalty.

In the Punjab, as in the United Provinces, the ordinary landholder is known as *zamīndār*, the term being applied irrespective of the size of the holding. A distinction used to be made in revenue records between *zamīndāri* and *pattīdāri* tenures on the one hand, and *bhaiyāchārā* tenures on the other—the former referring to estates held as a single unit or portions representing fractions of a single original share, and the latter to estates held in separate portions representing no fractional parts of the whole. The former classes of tenure are, however, less common than formerly, and the distinction is now of little practical importance. The *zamīndārs* in an estate are technically bound by a common responsibility towards Government, each being responsible for any balance of revenue due from other *zamīndārs* in the village; but here too the tendency is towards individualism, and with lighter and more elastic assessments the enforcement of collective responsibility has become practically obsolete. In practice, the owner or owners of each holding are assessed separately to revenue and are responsible to Government for the revenue so assessed. The revenue in each village is collected from the owners by one or more headmen or *lambardārs*, who pay the proceeds into the Government treasury and receive a percentage on the collections as their remuneration.

The persons recorded as owners, while undertaking the responsibility for the Government revenue, obtained a very much fuller right of property over their lands than had been usual in Sikh times. The right of transfer remained at first under some control and was little used; but as the revenue became lighter and land more valuable, the owners began to alienate, and within thirty years after annexation land had already begun to pass freely into the hands of money-lenders.

This evil grew more and more marked, until in 1901 the Government was compelled to place considerable restrictions on the powers of alienation enjoyed by agricultural tribes, in order to prevent their being completely ousted from their lands.

The initial examination of rights in land which occupied the first twenty years or so after annexation was a part of the process known as the regular settlement of the various Districts, and was accompanied by measurement of the land and by the preparation of a complete cadastral map and record of titles. The arrangement originally contemplated was to undertake a revision of the record of each District only when the District came under reassessment, that is to say, at intervals of twenty or thirty years. But since 1885, when the whole record system was reformed, it has been the practice to enter all changes as they occur in a supplementary register and to rewrite the record of titles once every four years; and this record is in law presumed to be true until the contrary is proved. In the same way, instead of making a fresh cadastral measurement of the District at each settlement, it is now becoming more usual to note changes in field boundaries as they occur, and to provide a fresh map at resettlement from the data thus available instead of by complete remeasurement.

The cadastral record, though it also shows all rights to land, was primarily meant to be a fiscal record indicating the persons liable to pay the land revenue. Having determined the persons thus liable, the next point is to decide the manner in which the assessment should be taken. The Sikh government most frequently took its revenue (as above described) in the form of a share of the crop, an arrangement which proportioned the assessment very satisfactorily to the quality of the harvest, but was attended by much friction and dishonesty. To avoid these disadvantages, and to maintain the tradition imported from the North-Western (now United) Provinces, the British revenue was levied in the form of a fixed cash assessment, payable from year to year independently of the character of the harvests. This form of revenue was, in most parts of the country, a considerable relief to the people after the harassment of the Sikh system, and it has ever since remained the predominant form of assessment in the Province. It subsequently, however, became clear that, in dealing with a people who save little from one year to another, an assessment of a fixed character caused a good deal of hardship where the harvests varied greatly in character; and it has therefore become gradually more usual, especially on river-side areas and in rainless tracts of the Western Punjab, to assess the land by a cash acreage rate on the crops of each harvest, so that the revenue may fluctuate with the area actually cropped.

The prevalent form of assessment prior to annexation absorbed the whole, or nearly the whole, of the produce which was not required for the maintenance of the cultivator. The first rough assessments under British rule aimed at obtaining the money value of a share of the gross produce approximating to that obtained by the Sikh revenue proper, after excluding its superfluous cesses; and as more detailed information became available, it became usual to look upon one-sixth of the gross produce as a fair standard of assessment. Later on, however, when land became more valuable and letting to tenants more common, it became, and has now for many years continued to be, the rule to assess on the net rather than on the gross 'assets,' and to assume, as in the United Provinces, that the normal competition rents paid on rented lands are a fair index to the net 'assets' of the proprietors generally. In the rare cases where competition rents are ordinarily paid in cash, there is little further difficulty; but in the more usual case of kind rents the value of the net 'assets' can be arrived at only after a number of elaborate and somewhat uncertain calculations as to prices, yields, &c. Although therefore the standard of assessment is represented, as in the United Provinces, by one-half the net 'assets,' this standard has not, as in those Provinces, been looked on as determining the average assessment, but as fixing a maximum which should not be exceeded. In four settlements recently sanctioned, for instance, the proportion of the calculated half net 'assets' taken in each District has been 78, 81, 69, and 87 per cent. respectively. These figures do not include the cesses, which are calculated on the land revenue but are separate from it. The rate at which these cesses are levied varies in the different Districts; but the prevailing rate is one of about $13\frac{1}{3}$ per cent., or about $2\frac{1}{6}$ annas per rupee, on the land revenue, of which 5 per cent. goes to the village headman, and $8\frac{1}{3}$ per cent. to Local funds. Efforts are at the same time made to assist local agriculture, not only by the loan of money for the purchase of seed and bullocks and the construction of wells, but also by remitting temporarily the revenue assessable on improvements such as the construction of gardens and wells. The increased assessment due to the improvement caused by a new well is remitted for a period of twenty years from the date of the construction of the well.

The assessment or settlement of the Province has usually been taken up District by District. The settlements effected immediately after annexation were summary in character, and the revenue then assessed remained payable for four or five years only. The more elaborate settlements subsequently made, which were known as regular settlements, were usually for thirty or twenty-six years; and the prevalent term now in force is one of twenty years.

In a tract where the previous assessment has approximated to the standard of half the net 'assets,' the main grounds for enhancement after twenty or thirty years are the increase of cultivation and the rise in prices. The cultivation of the Province between 1880 and 1900 increased about 19 per cent., and the price of the main staple (wheat) rose in the same period by about 36 per cent., while the land revenue demand of the Province, standing in 1880 at 193 lakhs, was 203 lakhs in 1890, 250 lakhs in 1900, and 283 lakhs in 1904, which at present prices represents an assessment of 460,000 tons of wheat. Adding cesses (60 lakhs) and canal rates (168 lakhs), the total assessment comes to 511 lakhs, representing 813,000 tons of wheat. The assessment in the time of Akbar (1594), when cultivation was quite undeveloped, reached a sum of 282 lakhs, which at the prices then current represented in wheat no less than 1,700,000 tons.

The collection of the grain assessments imposed by the Sikhs taxed, as may be imagined, the energies of a large staff of officials. Since annexation it has been usual to entrust the collection of cash assessments to the village headman, who, in return for this and other services, receives 5 per cent. of the revenue which he collects. In the early days of British rule, when the assessments were based on imperfect data and were often very severe, the headman frequently failed to collect the revenue; and stringent measures had to be undertaken to recover the Government dues, involving in many instances the wholesale transfer of proprietary rights from the agricultural to the moneyed classes. Even at the present day the collection of dues from a body so numerous as the peasant revenue-payers of the Province is a task which cannot always be accomplished without friction; and the law has reserved for Government very complete powers, by way of attachment, arrest, and sale, for the realization of its demands. The enforced sale of a defaulter's property, which in early days was common, is now, however, almost unknown.

In collecting the fixed assessments it is now the rule, on the occurrence of any markedly bad seasons, to arrange for total or partial suspensions of the revenue, calculated on the basis of the cropped area of the harvest as recorded by the revenue staff. The suspended revenue is allowed to lie over till next harvest, and is then collected or further suspended according to the conditions then prevailing. Should it be found necessary to postpone the collection for a considerable time, it is ultimately remitted altogether. When crops suffer from causes not of the ordinary seasonal nature for which allowance is made at assessment, e.g. by locusts or hail, the area damaged is calculated, and the revenue thereon is remitted at once. This system of suspending and remitting revenue has since 1880 become much more developed than it was in the earlier days of

British rule, and during the famines of 1896 and 1900 it did much to foster the resources of the affected areas. In Hissār, which suffered most at that time, 5·9 lakhs, representing 83 per cent. of the land revenue of the District, was suspended in 1899–1900; and in 1901–2 a sum of 37·3 lakhs then under suspension in various Districts was entirely remitted.

Mention has been made of the fact that, owing to the serious extent to which land was passing from the hands of the old agricultural tribes to those of the moneyed classes, the Government was in 1901 compelled to place restrictions on the alienation of land in the Punjab, this being the first occasion on which a general measure of this character has been introduced in India. Under the Land Alienation Act (XIII of 1900), the Government has in each District notified certain tribes as 'agricultural tribes,' and has classed as 'agriculturists' for the purposes of the Act all persons holding land, who either in their own names or in the names of their ancestors in the male line were recorded as owners or as hereditary or occupancy tenants at the first regular settlement. A member of an agricultural tribe may not, without permission, sell or otherwise permanently alienate his land to any one who is not a statutory 'agriculturist' of the same village or a member of the same agricultural tribe or group of tribes (for the present all the agricultural tribes of a District are counted as being in one group). Similarly, a member of an agricultural tribe may not mortgage land to any one who is not a member of the same tribe or group of tribes, unless the mortgage is in certain specified forms which fix a limit to the period of usufructuary possession or else ensure the retention of the cultivating possession by the mortgagor. The Act has not yet been long enough in force for its results to be accurately gauged; but as a general rule the object arrived at appears to have been achieved, and the intention of Government to be duly appreciated by the class for whose benefit the new measure was undertaken.

The assessments in the Punjab have generally been noted for their moderation. In the first regular settlements the assessments imposed at the summary settlements, which had been hastily conducted after annexation, were much reduced, though the enormous fall in prices which followed the pacification of the country made the burden of the earlier assessments heavier than had been intended. The policy of lenient assessments thus initiated has been adhered to.

For purposes of assessment land is divided into two main classes, irrigated and unirrigated. The latter includes moist (*sailāb*) land, not actually irrigated, in the valleys of the great rivers and on the banks of hill torrents. This is of the most varying quality, and its assessment varies accordingly. *Sailāb* land on hill torrents is occasionally assessed

as high as Rs. 4 per acre. Other unirrigated land pays from 3 or 4 annas to Rs. 2 or Rs. 2-8 an acre. Canal-irrigated lands are assessed to land revenue in three different ways: (1) by a fixed assessment on the land calculated on its value if unirrigated, plus a fixed or fluctuating canal-advantage land revenue; (2) by a fluctuating canal (*nahri*) rate or rates, no separate 'dry' rate being imposed; and (3) on the Sirhind Canal, by a (fluctuating) combined occupier's and land revenue canal rate. The first system is in force on the Western Jumna and Bāri Doāb, and the second on the Jhelum and Chenāb Canals. Lands irrigated by wells pay 12 annas to Rs. 6 or Rs. 7 per cultivated acre. The lowest rates are taken in the south-west, where the average area for each well is far larger than the area which can be irrigated from it in any one year, and where a considerable part of the crops grown is consumed by the tenant and his cattle without any return to the landlord. The highest rates are paid in the north-western Districts, where only 3 or 4 acres are attached to each well, the land being double cropped and producing valuable staples.

Miscellaneous revenue.

Under Sikh rule salt was one of forty-eight articles which were liable to customs, town, or transit duties. The cis-Indus and Kālābāgh salt mines were farmed out to persons of eminence; and the farmer, as long as he paid the amount of his contract, was allowed to dispose of the salt in any manner he might think proper. He was under no restrictions as regards time, place, or price, and might sell wholesale or retail, either at the mines or in distant markets. The prices charged by the farmers do not appear to have been high; but mining and transport difficulties helped to restrict the area within which the rock-salt was consumed, and the cis-Sutlej tract seems to have been almost entirely supplied at this time with salt from Rājputāna.

Upon annexation the management of the cis-Indus and Kālābāgh mines was at once taken over by the British Government. An excise duty of Rs. 2 a maund was levied at the mines, in lieu of all charges to which the salt was formerly subject; and on payment of this duty the salt was allowed to pass free throughout the British dominions, subject only to the additional duty of 8 annas a maund levied on all salt crossing the branch customs line established for the protection of the Bengal revenue. The duty imposed was considerably higher than the prices charged by the farmers for salt under the Sikh government, but all articles except salt and liquor were exempted from excise, customs, and transit duties. The Imperial customs line was at the same time extended along the Sutlej and the Panjnad to the Indus at Mithankot, and a preventive line was established on the Indus to exclude Kohāt salt from the cis-Indus portion of the Province. The manufacture of alimentary earth-salt in the cis-Indus Punjab was also prohibited. The

adoption of the principle of a fixed duty on the product.on of salt, levied at the source, foreshadowed the adoption of the policy now in force throughout India. Salt crossing the customs line into the cis-Sutlej Punjab from Rājputāna was liable to the duty in force in the United Provinces of Rs. 2 a maund. The history of salt taxation in the cis-Indus Punjab from this time merges in the history of salt taxation in British India, and it is unnecessary to specify the enhancements and reductions in the rate of the duty which have since been made. In 1870 a price of one anna a maund was charged on rock-salt excavated on behalf of Government in addition to the duty.

From 1849 to 1869 the salt mines and quarries in the cis-Indus Punjab and at Kālābāgh and the preventive line on the Indus were under the management of the Provincial Government; but in 1869 the Government of India assumed the direct control of the inland customs department, and the administration of the salt revenue in the Punjab was at the same time made over to the Imperial department. In 1878 the customs line was abolished, but the preventive line at the Indus was still retained. Upon the abolition of the customs line the Punjab system of levying duty at the mines was extended to the Rājputāna salt sources, but the change of policy had no material effect upon the salt supply of the Punjab. Cis-Indus rock-salt continued to be the main source of supply for the trans-Sutlej Districts, and with the extension of the railway to Khewra in 1882 the demand for this salt rapidly grew.

By the annexation to the Punjab of the Delhi territory after the Mutiny two additional sources—the Nūh and Sultānpur salt-works in Gurgaon and Rohtak Districts—were brought within the Province. The greater part, however, of the salt produced at these works was consumed in the United Provinces of Agra and Oudh; and the competition of superior salt at a uniform rate of duty after the abolition of the customs line and the lease of the Rājputāna salt sources by the British Government soon proved fatal to these works. The quantity of Nūh and Sultānpur salt which annually crossed the customs line into British territory before 1878 was about 158,000 maunds and 680,000 maunds respectively. By 1883-4 the salt from the Nūh works, which were not on the line of railway, had become unsaleable, and the works were closed. The Sultānpur salt-works, most of which are on the Farrukhnagar branch of the Rajputāna-Mālwā Railway, are still struggling for existence, but the annual sales from the works in the three years ending 1903-4 have averaged only 65,763 maunds.

For some years after annexation earth-salt was made on a considerable scale under a contract system of taxation in the Rājanpur *tahsīl* of Dera Ghāzi Khān District; but in 1881 the prohibition of

the manufacture of alimentary earth-salt was extended to the territory west of the Indus, and all licit salt-works were closed.

The preventive line on the Indus was withdrawn in 1896, when the duty on Kohāt salt was raised to Rs. 2 a maund of $102\frac{17}{28}$ lb. The transport of this salt to cis-Indus territory, both in the Punjab and in the new North-West Frontier Province, is, however, still prohibited.

At present Rājputāna salt is consumed in Delhi and the adjoining Districts, and from Ambāla northwards the Punjab is supplied with rock-salt from the cis-Indus and Kālābāgh mines. The salt excavated from the cis-Indus mines is the cheapest in India, and of excellent quality, the analysis of a sample showing a percentage of 98.86 of chloride of sodium, and the average percentage may be taken at 97. The trade in salt within the Province is in a satisfactory state. In 1903-4 the number of traders dealing direct with the Salt department was 2,035, and salt is supplied to all parts of the Province without the intervention of middlemen. Salt from the Mayo Mines at Khewra is delivered, sewn up into bags (which are provided by the traders) and loaded into railway wagons, at a price of 1 anna 3 pies a maund. Salt from Wārcha and Kālābāgh, where arrangements for its removal are made by the traders, is sold at 9 pies a maund. The illicit manufacture of salt is still carried on in Rājanpur, and cases occasionally occur in Multān, Muzaffargarh, Delhi, and Gurgaon; but salt is good and cheap, especially in the central and western portions of the Province, and offences against the Salt Law are rare.

Details of the quantities of salt sold for consumption within the Province are given below:—

Period.	Salt made and sold.		Salt imported.		Gross revenue, including licences for the manufacture of saline substances, but excluding miscellaneous receipts.	Consumption in the Province.
	On behalf of Government.	On behalf of Mandi State and by private persons.	From within India.	From other countries.		
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
1880-1 to 1889-90 (average)	1,715,205	611,170	394,619	1,537	50,80,247	2,047,473
1890-1 to 1899-1900 (average)	2,086,198	243,899	314,154	1,559	57,03,369	2,188,088
1900-1	2,405,520	175,817	403,337	2,386	63,97,285	2,459,223
1903-4	2,662,780	199,967	365,470	2,384	57,08,188	2,542,282

The incidence of consumption per head was $6\frac{3}{4}$ lb. in 1881, $7\frac{4}{5}$ lb. in 1891, $7\frac{1}{4}$ lb. in 1901, and $7\frac{1}{2}$ lb. in 1904.

The Punjab system of excising opium differs essentially from that of the rest of India, in that the cultivator is allowed to sell the pro-

duce of his poppy crop to licensed vendors instead of being compelled to sell it to the state as in other Provinces. Hence the state, not being a monopolist of the drug, has to resort to its taxation, and ever since annexation it has levied a twofold tax upon it: firstly, it levies an acreage duty on the poppy crop; and secondly, it taxes its sale by putting up to auction the licences to purchase the produce and resell it when made into opium. Under this system of direct taxation opium is but lightly taxed in the Punjab. The acreage duty is low (only Rs. 2 per acre in the tracts in which opium is made, and Rs. 4 in those in which the poppy is cultivated chiefly for the poppy-heads), in order to safeguard the cultivator against failure of the crop or inability to realize it; and this involves a low rate of import duty, as a high rate would encourage smuggling. On the other hand, the import duty has to be pitched high enough to prevent the home-produce being undersold.

In the Punjab opium is made only in the following tracts: Shāhpur and Ambāla Districts, the Thānesar *tahsīl* and Pehowa circle (in Karnāl), the Chuniān *tahsīl* of Lahore, the Rājanpur *tahsīl* of Dera Ghāzi Khān, in the plains; and, in the hills, the Kot Khai *tahsīl* of Simla and the Kulū subdivision of Kāngra. The plant is also cultivated chiefly for poppy-heads in four tracts: Jullundur and Amritsar Districts, the Hoshiārpur *tahsīl* of Hoshiārpur, the Lahore and Kasūr *tahsīls* of Lahore, and the Jāmpur *tahsīl* of Dera Ghāzi Khān. Throughout the rest of British territory in the Province the cultivation of the poppy has now been absolutely prohibited; but it is cultivated in several Native States, especially in those of the Himālayan region. The total area cultivated in British territory averaged 10,000 acres between 1891 and 1900, while it was 4,700 acres in 1900–1, and 8,852 acres in 1903–4. The area varies greatly from year to year. In Shāhpur, Simla, and Kulū it is fairly constant; but elsewhere it depends on the price of wheat, a large area being sown only if wheat is cheap. The area cultivated for poppy-heads varies much more than that sown for opium, and their price in consequence also fluctuates greatly.

Opium is imported into British territory from the Native States of the Province, especially the Simla Hill States, Sirmūr, Mandī, and the Himālayan area of Patiāla; but importation from Bahāwalpur and certain plains tracts of the other Native States is prohibited. It is also imported from Mālwā, Bengal, Kashmīr, and Afghānistān. The Government of India allows a maximum of 1,116½ maunds of Mālwā opium to be imported at a duty of Rs. 280 per chest, compared with the usual duty of Rs. 725. Of this amount, about 330 maunds are delivered annually to the Phūlkiān States, and the duty on this is credited to the States in order to interest them in the prevention of

smuggling. The Opium department also supplies the Punjab Government with Bengal opium, not exceeding 176 maunds a year, at Rs. 8–8 a seer; and this is sold by the Government treasuries at Rs. 15 a seer in the Districts of Hissār, Rohtak, and Delhi, and elsewhere at Rs. 17. All other imported opium pays Rs. 2 per seer when it crosses the border. The Punjab exports no opium except to the North-West Frontier Province, but statistics of this export are not available.

Opium-smoking is not common, being practised only by dissipated coteries in the larger towns, and the sale of *madak* and *chandu* (preparations for smoking) is illegal. Licences for their sale used to be granted; but the shops were all closed in 1890, and even their possession for private use is limited to one tola weight.

Prior to annexation the only spirit made in the Punjab was an uncoloured rum from sugar, and this is still the chief alcoholic drink of the people. To control its production, in 1863 no less than 118 state distilleries were established at District and *tahsīl* headquarters. Each of these was an enclosure in which private distillers were permitted to set up stills, the spirit manufactured being kept in store by the excise officials and issued by them, after payment of the duty, to retail vendors. This system has now been abolished and replaced by six private licensed distilleries—at Sujānpur, Amritsar, Rāwalpindi, Karnāl, and Simla. The last chiefly distils whisky from barley malt. The other four distil uncoloured rum for the majority of the population. At each distillery a resident exciseman supervises the output and vend. A duty of Rs. 4 per gallon (raised in 1906 to Rs. 6 in the case of coloured spirit, and the so-called brandy, whisky, and gin which are prepared from a cane-spirit basis) is levied both at the still-head and on all Indian spirit imported into the Province, European liquors paying customs duty at the port of arrival. There are seven breweries, all of which except one are situated in the hills, and a tax of one anna a gallon is levied on the beer before it leaves the brewery. Spirit-drinking is most prevalent among the Sikhs. The recorded consumption of the Province is about 300,000 gallons a year; this, however, does not represent nearly the total amount actually consumed, as illicit distillation is extremely prevalent, and, owing to the universal cultivation of sugar-cane, very hard to detect. The consumption of licit country spirit is on the increase.

The figures for imported spirits shown on the next page include the amount consumed by the European population; the quantity sold to the Indian public is about 25,000 gallons annually, and is increasing. In the cities cheap European spirits compete with native spirits.

Although the hemp-plant grows abundantly, *charas*, the drug extracted from its leaves and flowers, cannot be made in the Province. It is imported from Yārkand and Kāshgar, via Leh, to bonded ware-

houses in the Punjab or United Provinces. Before it is sold, a duty of Rs. 6 per seer is levied. *Charas*-smoking is considered disreputable, and is a dangerous practice, often leading to insanity. *Bhang*, the dried leaves of the hemp-plant, supplies a medicinal beverage with cooling properties, which is drunk chiefly by Sikh ascetics. The plant grows wild in such quantities in the hills and submontane Districts that it is impossible to prohibit the gathering of its leaf, but any person found in possession of more than one seer is liable to a penalty. Licensed vendors may collect *bhang* without restriction within their own Districts, but in Districts where hemp does not grow all *bhang* imported is subject to a duty of Rs. 4 per maund. Thus while the duty on *charas* is easily realized by guarding the routes of import, that on *bhang* is very difficult to collect, and where it grows wild cannot be imposed at all.

Details of net excise revenue, &c., are shown below. The figures up to and including the year 1900–1 are for the Punjab as constituted before the separation of the North-West Frontier Province; those for 1903–4 are for the Punjab as now constituted:—

	Net revenue in rupees.		
	1890–1 to 1899–1900 (average).	1900–1.	1903–4.
Imported spirits (by licence fees)	69,370	91,982	99,006
Indian spirits (including native fermented liquors made in Kāngra District) made in British India, by still-head duty and licence fees	13,63,906	14,76,443	16,34,463
Beer made in British India (by duty per gallon)	32,109	1,01,114	1,23,594
Charas and *bhang* (by licence fees)	17,869	1,94,114	1,72,612
Charas and *bhang* (by quantitative duty and warehouse dues)	38,875	1,27,426	1,83,990
Opium, licence fees, and miscellaneous receipts	5,29,188	6,10,007	5,85,577

The incidence of the gross excise revenue, excluding opium, was 1 anna 1 pie per head in 1881, 1 anna 5 pies in 1891, and 1 anna 9 pies in 1904.

Stamped paper of a primitive kind came into use in the Punjab immediately after annexation. In 1872 the present system was inaugurated by the appointment of a Superintendent of Stamps, an office which is now combined with that of Commissioner of Excise. Every Government treasury is a local dépôt for the sale of stamps, judicial and non-judicial, to the public, and of postage stamps to postmasters. Similarly, sub-treasuries are branch dépôts. All treasurers are *ex-officio* vendors of stamped paper to the public. They are entrusted with stocks of stamps, and are required to meet the

detailed demands for stamps made by the public, indenting upon the main stock of the local dépôt when their own runs low. The net revenue from the sale of judicial stamps in the Punjab between 1881 and 1890 averaged 23 lakhs and in the following decade 27 lakhs, while non-judicial stamps in the same periods brought in on an average 11 and 14 lakhs respectively. In the year 1900–1 judicial stamps realized 27 lakhs and non-judicial stamps 15 lakhs, and in 1903–4 (after the separation of the North-West Frontier Province) the net revenue was 27 and 13 lakhs respectively.

The net revenue from income tax rose from an average of 10·1 lakhs between 1886 and 1890 to 11·2 lakhs in the following decade, and amounted to 11·6 lakhs in 1903–4, after the separation of the North-West Frontier Province and the exemption of incomes below Rs. 1,000. The corresponding number of assessees was 40,251, 44,785, and 21,709. The incidence of the tax per head (of the assessees) in 1903-4 was Rs. 53–6–8, and there were 1·1 assessees per 1,000 of the population.

Local and municipal.

Local government in the Punjab, as in the rest of India, is of two kinds, the local government of the village and that of the District and town; the former is an indigenous institution dating from the remotest antiquity, the latter an exotic of Western importation. The Indian village community is described in Vol. IV, chap. ix (pp. 279, 280). All three types of village community there described are in one form or another represented in the Punjab. The Jat village of the south and central plains is a perfect type of the joint village, while the villages of the Salt Range, owned by landlords of a dominant race, who have gathered round them dependent communities of cultivators, represent the landlord village. The *ryotwāri* type of village may be said to exist in the south-western plains, where the so-called village is merely a group of isolated homesteads, built wherever a well has been sunk in the arid desert. Here the village is really a fiscal unit; and much the same may be said of the villages of the hills, which are in reality only groups of hamlets, loosely held together by certain common interests and joint rights of grazing or pasture in the forests. In these latter cases village self-government has naturally never existed, but the true village community has from time immemorial administered its own affairs with little outside help or interference. The landowners of the village, connected by common descent, real or fictitious, form among themselves a republic, which rules its dependent priests, artisans, and menials with oligarchic authority. The informal assembly of the village, comprising every adult male of the proprietary body, is presided over by a headman, *chaudhri*, *mukhia* (lit. 'spokesman'), or, to use the modern term, *lambardār*. Often there are several headmen. The headman of a village is appointed by the Deputy-Commissioner, and, if he is

recognized by the community as its natural leader, his influence equals his authority. If not, his authority is limited to such legal powers as are conferred on him, and in the South-East Punjab a leader of the opposition is regularly chosen. The headman transacts the business of the community, including the management of its common fund, to which all contribute, and to supplement which, in many villages, a hearth or door tax is imposed on all residents who are not members of the proprietary body. The communal body has no legal powers; but it is in its power to inflict on recalcitrant members of the community the punishment of social excommunication, and on the menials and artisans various inconveniences. Only the village banker is beyond its authority; and he, by virtue of being the creditor of every man in the village, is able to bring considerable pressure on the council to order things according to his pleasure. There is, however, but little prospect of the village council being utilized as a part of the machinery of Government. As being essentially a tribal organization, it can never be entrusted with legal powers in a community that is daily approaching the industrial stage, and the spread of education makes it increasingly difficult for it to exercise its unauthorized powers of control.

In some form or other municipal administration has existed in the Punjab ever since annexation. In its earliest stage committees of townsmen were formed to administer the surplus of the funds raised by cesses or duties for watch and ward purposes. This system worked well, but it lacked the essentials of municipal government, the funds being vested in official trustees. A more regular form of municipal administration was introduced in Simla and Bhiwāni under the Act of 1850; and in 1862 the head-quarters of Districts were formed into regular municipalities, with committees, mostly elected, invested with control over local affairs and power to regulate taxation. In 1864 there were 49 committees, of which 28 had elected members. Hitherto the municipalities had been constituted under the executive authority of Government; but in 1866 doubts arose as to their legal status, and more especially as to the validity of the octroi tax from which their funds were mainly derived. Accordingly, the first Municipal Act for the Punjab was passed in 1867, and renewed for a year in 1872. In 1873 a new enactment, which made election permissive, was passed; and under it 190 committees were constituted, 8 of these (Simla, Dharmsāla, Dalhousie, Murree, Delhi, Lahore, Amritsar, and Multān) being of the first class, 17 of the second, and 165 of the third. They were controlled by the Local Government, the Commissioner, or the Deputy-Commissioner, according to their class. The Local Bodies Loans Act of 1879 empowered the Local Government to grant loans to approved municipalities for improvements; and in 1884 a new

Municipal Act was passed, with the object of restoring the elective principle and widening the sphere of municipal activity. Two classes of committees were recognized, the first having greater latitude to incur expenditure on public works than the second. The Act of 1867 had, however, been too widely applied, and between 1885 and 1887 no less than 41 committees were abolished. In 1891 was passed an amending Act, which reformed the system of taxation, and provided a simple form of municipal administration for towns which it is inexpedient to constitute regular municipalities. The towns to which this form has been applied are termed 'notified areas.'

In 1904 the Province contained 8 municipalities of the first class, 131 of the second, and 48 'notified areas.' Three of these (Lahore, Delhi, and Amritsar) contained over 100,000 inhabitants, 47 more than 10,000 but less than 100,000, and 137 less than 10,000 inhabitants. The average incidence of municipal taxation in 1903–4 was Rs. 1–8 per head. The population within municipal limits was 2,299,893, including 210,223 in 'notified areas,' according to the Census of 1901. In 1903–4 the members of municipal committees numbered 1,503, of whom 229 were *ex officio*, 495 nominated, and 779 elected. The committees in the 'notified areas' were composed of 186 members, 84 *ex officio* and 102 nominated. Only 126 Europeans sit on all these committees.

The principal source of municipal income is octroi, which in 1903–4 realized as much as 30 lakhs out of the total of Rs. 55,48,000. Direct taxation of houses and lands is virtually confined to the hill municipalities and Delhi. Water rate is levied only in Ambāla, Simla, Kasumpti, Dharmsāla, Lahore, Dalhousie, and Murree, in all of which water-supply schemes have been carried out. The main features of municipal finance are shown in Table XII at the end of this article (p. 389).

Local self-government of the District likewise dates from the early days of British rule. Prior to 1871 each District had a District committee, but it was merely an advisory body. The rules under the Local Rates Act of that year made these committees administrative bodies, and they did excellent work. In 1883 Lord Ripon's Act extended the elective principle to District boards, and under it local boards were also established in *tahsīls*. The system of election at first promised well; but it was soon found that membership of a board was not sought for public ends, and men of good position and local influence were reluctant to stand. It is now an accepted fact that the best men prefer nomination by Government to canvassing for election. Local boards were soon found to be superfluous, as the business of the District boards could not with advantage be delegated, and they are rapidly being abolished. In 1903–4 the Province possessed 26 District

boards, excluding Simla, where the Deputy-Commissioner exercises the powers of a District board. These boards were composed of 1,077 members: 207 *ex officio* (the Deputy-Commissioner being nearly always *ex-officio* president), 495 nominated, and 375 elected. Only 7 Districts had local boards, 28 in number, with 531 members: 28 *ex officio*, 161 nominated, and 342 elected.

The District fund is mainly derived from the local rate—a cess ordinarily of 1 anna 8 pies per rupee, or Rs. 10–6–8 per cent.[1], on the land revenue of the District—supplemented by grants from Provincial funds. The expenditure of a District board is chiefly devoted to the maintenance of schools and dispensaries, vaccination, roads and rest-houses, arboriculture, ferries, cattle-pounds, horse-breeding, and horse and cattle fairs. Its expenditure on education, medical relief, and office establishments is largely of the nature of fixed establishment charges. Famine works have been readily undertaken by District boards in time of necessity; and large expenditure under this head, coinciding as it always must with little or no income from the local rate, has frequently necessitated financial aid from Government. District boards have afforded invaluable assistance to Deputy-Commissioners as consultative bodies, but the necessity of conforming to the rules of the educational, medical, and other departments leaves little scope for local initiative. Even in the case of public works, six-sevenths of the sum available is ear-marked for maintenance and establishment. The income and expenditure for a series of years are shown in Table XIII at the end of this article (p. 390).

Public works.

The Public Works department is divided into two branches: Irrigation, and Buildings and Roads. The former has hitherto been an Imperial branch under a Chief Engineer, who is also *ex-officio* secretary to the Provincial Government. According to the Provincial settlement which came into force in 1905, the Provincial Government participates in the profits earned by the branch, and bears a share of the working expenses. Under the Chief Engineer are Superintending Engineers, who control circles formed of one or more canals. These circles are again divided into divisions, each in charge of an Executive Engineer. The size of a division varies according to circumstances; but, excluding head-works divisions, it usually comprises an irrigated area of about 350,000 acres. The Province is divided into 6 circles and 26 divisions. Each division is further divided into 3 or 4 subdivisions in charge of a subdivisional officer, usually an Assistant Engineer. Not only does the department maintain all the canals in its charge, but its officers are responsible for the registration and measurement of the irrigation and the assessment

[1] Now reduced to Rs. 8–5–4 per cent. by the abolition of the cess for famine (1906).

of the revenue levied on it. For canal revenue purposes each subdivision is divided into sections, generally three in number, each in charge of a *ziladār*, and each section is again subdivided into *patwāris'* circles. For maintenance purposes, a subdivision is divided into sections, in charge of overseers or sub-overseers. The revenue establishment of a whole division is further supervised by a Deputy-Collector, who is also a second-class magistrate. When the supply of water is less than required, the Superintending Engineer controls inter-divisional distribution and the divisional officer that between subdivisions. The internal distribution of water and regulation of supply is primarily in the hands of the subdivisional officers. The *ziladār*, who is constantly in touch with all his *patwāris*, indents for water at distributary heads. The subdivisional officer receives reports for all his channels daily and thus controls the distribution. The Executive Engineer supervises the internal distribution by subdivisional officers, and controls the inter-divisional distribution; and a report on the general state of crops is submitted weekly by each divisional officer direct to the Chief Engineer, who thus controls generally the distribution throughout the Province. The efficient distribution on Punjab canals is mainly due to the very extensive canal telegraph system. The Chief Engineer also controls the irrigation works of the North-West Frontier Province, and is *ex-officio* secretary to the Agent to the Governor-General and Chief Commissioner of that Province.

The Buildings and Roads branch is under a Chief Engineer, who is likewise *ex-officio* secretary to Government. It is divided into three circles, each under a Superintending Engineer. The number of divisions varies from time to time according to the funds allotted for expenditure, but is ordinarily between 12 and 13, each under an Executive Engineer. Each division embraces from one to four civil Districts. A division is again divided into subdivisions, usually controlled either by Assistant Engineers or by upper subordinates. This branch is maintained from Provincial funds, and its primary object is the construction and maintenance of Imperial and Provincial works; but it also assists municipalities and District boards with advice and the loan of its officers when they can be spared, and all important sanitary works are carried out for such bodies by the branch, a percentage being charged for establishment, tools, and plant, though this charge is frequently remitted.

The appointment of Sanitary Engineer to Government was created in October, 1900, for a period of five years in the first instance, with the rank of Superintending Engineer. The cost of his pay and establishment is met from Provincial revenues, which are credited with the fees recovered from the local bodies which utilize his services. The Sanitary Engineer is a member of the Provincial Sanitary Board, and is its

executive officer and expert adviser to Government and the Board in all matters relating to sanitary engineering.

The only railway built from Provincial funds was the 65 miles of line from Amritsar to Pathānkot. Its capital cost up to March 31, 1896, was: direct, 55 lakhs; indirect, 5 lakhs. The actual cash paid from Provincial funds was 6 lakhs, the balance having been advanced on loan at 4 per cent. from Imperial funds. As the net earnings barely exceeded 1 per cent. on the capital cost, the undertaking proved a serious financial loss; and the Government of India took over the proprietorship of the line, including its management, in 1897, the Local Government forgoing the 6 lakhs it had spent on it.

The most important buildings constructed during the decade ending 1901 were the Secretariat offices at Simla and the Chief Court and Jubilee Museum at Lahore. District court buildings have been built at Simla, Amritsar, and Lyallpur, a sessions house at Jhelum, and a residence for the Commissioner at Delhi. Six new jails were constructed and one enlarged; a female penitentiary, nine *tahsīl* buildings, and five combined *tahsīl* and police stations were built, and police accommodation extended in six Districts. The principal educational buildings erected were: the Government College, Lahore, with a boarding-house; new buildings for the School of Arts, Lahore; school-rooms for boys and girls, a reception bungalow, band-room, and restoration of buildings at the Lawrence Military Asylum, Sanāwar; a new Technical school at Lahore; a combined boarding-house for the Central Training College, Lahore; the normal and central model schools, Lahore; and normal schools at Jullundur and Rāwalpindi. The chief medical buildings at Lahore were the following: the new Medical School; a separate ward for Europeans at the Mayo Hospital; the Lady Aitchison Hospital for Women; the Prince Albert Victor wing attached to the Mayo Hospital; new dissecting rooms in connexion with the Mayo Hospital; an ophthalmic ward in connexion with the Mayo Hospital; and a new lunatic asylum for the Punjab. A church was also built at Dalhousie. Additions in the form of realignments, metalling, or bridging have been made on a large number of roads, and feeder roads to the different railways have been extensively constructed.

Since 1901 a General Post Office, a University Hall, a boarding-house attached to the Medical School, and a female ward in the Lunatic Asylum have been erected at Lahore, the Sāragarhi memorial and the Victoria Jubilee Hospital at Amritsar, and the Walker Hospital and a new wing to the Foreign Office at Simla. Water-works and drainage works have been carried out at Lyallpur, and extensive improvements made in the Upper Mall at Lahore.

The most important bridges constructed were as follows: on the Kāngra valley road, the Lyall viaduct over the Chakki torrent, twenty-

eight spans of 39½ feet, and the Dheri bridge, of 214 feet span; a bridge over the Jhelum at Kohāla, two spans of 98 feet and one of 142 feet; the Bāngangā bridge in Kāngra, 85 feet span; and the Leh bridge near Rāwalpindi, three spans of 60 feet.

Owing to the construction of the Chenāb Canal, a large tract of country embracing portions of Jhang and Gujrānwāla Districts, and known as the Chenāb Colony, has been opened up. For the development and proper administration of the colony, roads and buildings have been and are being constructed. Large sums have been spent on unsuccessful attempts to prevent the encroachment of the Indus in Dera Ghāzi Khān.

The following large municipal works have been carried out since 1881: water-supply of Lahore city and suburbs, Simla, Rāwalpindi, Delhi, Amritsar, and Ambāla; drainage and sewage works at Lahore, Delhi, Amritsar, Simla, Ludhiāna, and Jullundur.

Army.

For thirty-five years, from 1851 to 1886, a military force known as the Punjab Frontier Force was directly under the orders of the Lieutenant-Governor of the Punjab. In the latter year it was transferred to the control of the Commander-in-Chief. The troops in the Punjab all belong to the Northern Command, with the exception of those quartered at Delhi, which belong to the Meerut division of the Eastern Command. The Lieutenant-General Commanding has his head-quarters at Rāwalpindi and Murree; and the Punjab is garrisoned by the Rāwalpindi and Lahore divisions and the independent Derajāt brigade of the Northern Command, and by the Meerut division of the Eastern Command. The military stations in 1904 were: *Rāwalpindi division*—Attock, Campbellpur, Jhelum, several stations in the Murree hills, Rāwalpindi, and Siālkot; *Lahore division*—Ambāla, Amritsar, Bakloh, Dagshai, Dalhousie, Dharmsāla, Ferozepore, Jullundur, Jutogh, Kasauli, Lahore (Fort and Cantonment), Multān, Sabāthu, and Solon; *Derajāt brigade*—Dera Ghāzi Khān; and *Meerut division*—Delhi. All these (except Bakloh, Dharmsāla, Jhelum, Campbellpur, and the stations in Dera Ghāzi Khān District) are garrisoned by British infantry, and all but Campbellpur, Murree, Solon, Dagshai, Sabāṭhu, Lahore (Fort), Dalhousie, Kasauli, and Jutogh by Native infantry. British cavalry are stationed at Rāwalpindi, Siālkot, and Ambāla, and Native cavalry at those places and at Lahore Cantonment, Ferozepore, Multān, Jullundur, and Jhelum. British artillery are stationed at all the foregoing, except Jhelum, and at Campbellpur, Jutogh, and Attock. Sappers and miners are stationed at Rāwalpindi, and a military railway company at Siālkot. Transport units are permanently located at the following stations: mule corps and cadres at Rāwalpindi, Hassan Abdāl, Siālkot, Jhelum, Lahore Cantonment, Ferozepore, Jullundur,

and Ambāla; camel corps at Campbellpur, Rāwalpindi, Jhelum, Shāhpur, Multān, Montgomery, Lyallpur, and Lahore Cantonment. There are arsenals at Ferozepore and Rāwalpindi. The total strength of the British and Native regular army stationed within the Province on June 1, 1904, was as follows: British, 17,277; Native, 21,420; total, 38,697. There are four volunteer corps, the total strength of which in 1904 was 2,270. Of these, the Punjab Light Horse, raised in 1893, has its head-quarters at Lahore, with detachments at Delhi, Ambāla, Rāwalpindi, Lyallpur, and Pālampur: its strength in 1904 was 186. The 1st Punjab Volunteer Rifle Corps has its head-quarters at Lahore, with detachments at Amritsar, Dhārīwāl, Gurdāspur, Rāwalpindi, Murree, Siālkot, Delhi, Karnāl, Ferozepore, and Dharmsāla, and Srīnagar in Kashmīr: its strength is 701. The Simla Volunteer Rifle Corps has its head-quarters at Simla, with a detachment at Kasauli: its strength is 363. The North-Western Railway Volunteer Rifles have their head-quarters at Lahore, with detachments at all important stations. The corps has a strength of 1,267, but many of these are in other Provinces. There are also detachments of the 2nd Bombay, Baroda, and Central India Railway Volunteers and of the East Indian Railway Volunteers, at Sirsa, Ambāla, and Kālka, which have a combined strength of 110.

The Punjab stands first among the Provinces of India in the number of recruits it supplies for the Native army, and second to none in the fighting quality of the races recruited. The principal classes recruited in the Province are Sikhs, the recruiting centre for whom is at Jullundur; Punjābi Muhammadans, Jhelum; Dogrās, Jullundur; and Jāts and Hindustāni Muhammadans, Delhi.

The forces maintained by the Native States under the control of the Punjab Government are of two kinds: Imperial Service troops and local troops. Eight of the principal States maintain the former. Thus, the Patiāla contingent consists of a regiment of cavalry and two battalions of infantry; Jīnd, Nābha, and Kapūrthala each maintain a battalion of infantry, and Bahāwalpur a transport corps with a mounted escort of camelmen, while Farīdkot, Māler Kotla, and Sirmūr furnish a company of sappers apiece. No State in India, except Gwalior and Kashmīr, furnishes a larger contingent than Patiāla. The local troops are of all degrees of strength and efficiency. They range in strength from the regiment of cavalry, two battalions of infantry, and one battery of artillery that Patiāla can put into the field to the half-dozen soldiers of some of the Hill States. Even in the largest States they are employed more as armed police than as a military force, while in the smaller States their services are utilized in the collection of revenue, as well as in the maintenance of order and the performance of ceremonial functions.

On the annexation of the Punjab in 1849 a police force was organized in two branches, a military preventive and a civil detective police, the former consisting of 6 regiments of foot and 27 troops of horse. By the beginning of 1860 its strength had risen from 15,000 to 24,700 men, excluding the Peshāwar and Derajāt Levies, and the *thagī*, cantonment, and canal police, the total cost exceeding 46½ lakhs a year. In 1861 the cis-Indus police were reorganized under the Police Act (V of 1861), which was not completely extended to the six frontier Districts till 1889. Revisions in 1862, 1863, and 1869 reduced the cost of the force to 25 lakhs; and in 1863 the Derajāt, Peshāwar, cantonment, *thagī*, and canal police were brought under the general system of the Punjab. The railway police were organized in 1869. The police of the North-West Frontier Province became a separate force on the constitution of that Province in 1901.

Police and jails.

The establishment now consists of a single force controlled by an Inspector-General, who is *ex-officio* under-secretary to Government. He is assisted by three Deputy-Inspectors-General, one of whom is in administrative charge of the railway police and the criminal investigation department. Commissioners of Divisions are also Deputy-Inspectors-General *ex officio*. Each District has a Superintendent, and the larger Districts each have one or more Assistant Superintendents who (with the exception of the officers in charge of two subdivisions) work under the Superintendent at head-quarters. The unit of administration is the *thāna* or police station under a sub-inspector, and outposts and road-posts are established where necessary. Nearly half the force is armed with bored-out Martini-Henry carbines, swords, and batons. The remainder are armed with swords and batons only. The sole military police now maintained are in Dera Ghāzi Khān District, which has two forces, each under the command of an Assistant Commissioner: the border military police proper, and a militia raised in 1901 to take the place of the regular troops recently withdrawn. The training of constables is carried out in the Districts in which they are enrolled. Before promotion to head constable, constables go through a course of instruction at the Police Training School, established at Phillaur in 1891. Head constables and sub-inspectors have also to go through a course at this school to qualify for promotion to the higher grades, and all men who receive direct appointments are required to qualify at the school before they are confirmed.

The village watchmen or *chaukīdārs*, who are appointed by the District Magistrate on the recommendation of the village headmen, receive on an average Rs. 3 a month as pay from the village community. They are not as a rule armed, though in some places they

carry swords or spears. Their duties are similar to those in other Provinces, but they are regarded as acting under the control of the village headmen, who are jointly responsible for reporting crime. In most municipal towns the regular force is supplemented by a body paid from municipal funds. Cantonments have police paid from Provincial funds, and in some Districts there are ferry police. All these bodies are controlled by the District Superintendent. The railway police, who are responsible for the maintenance of law and order over the whole North-Western Railway system, are organized under a Deputy-Inspector-General. There is no separate detective staff in the Punjab. The system of identification by means of finger-prints is employed, and the training school at Phillaur includes a criminal identification bureau. The strength of the regular District police is one man to 7·8 square miles or to 1,647 persons; the number of village watchmen exceeds 29,600.

Nine tribes have been registered under the Criminal Tribes Act. Of these the most important are the Sānsis, Baurias, and Mahtams; they are usually settled in villages under the charge of a police guard, whose duty it is to see that no registered member of the tribe is absent without leave. The imposition of punitive police posts on villages which have misconducted themselves is not an uncommon feature of the administration.

The jail administration is under an Inspector-General, who is an officer of the Indian Medical Service, as are generally the Superintendents of Central and District jails. The post of Superintendent of a District jail is generally held by the Civil Surgeon. Jails in the Punjab consist of Central and District jails. There are no subsidiary jails, but their place is taken by large lock-ups. The greater portion of the prisoners are confined in barracks, to which the cubicle system is being gradually applied. A jail on this system is being built at Lyallpur.

Table XV attached to this article (p. 392) shows how mortality in jails has decreased since 1881. It must, however, be noted that tuberculous diseases have shown a tendency to increase during recent years. It is hoped that this will be checked by improvements now being made in the ventilation of dormitories, and in the arrangements for cleansing and disinfecting clothing and bedding. It is also intended to build special tuberculous wards in the larger jails; indeed, such accommodation is being provided in two of the Central jails. It will be noticed also that the average cost of prisoners has steadily increased since 1881. The increase is mainly due to higher prices of food-grains and of such articles as woollen and cotton yarns used in the manufacture of clothing and bedding, and also in some measure to expenditure incurred in effecting a general amelioration of the conditions of prison life.

The chief industries carried on in the Central jails are lithographic printing, weaving woollen and cotton fabrics, carpet-making, brick-making, and expressing oil. The greater portion of the out-turn is supplied to Government departments. When opportunity has offered, prisoners have been employed in carrying out large public works: and temporary jails were built at Chenāwan in 1884 and at Mong Rasūl in 1898 in connexion with the excavation of the Chenāb and Jhelum Canals. In District jails the chief industries are paper-making, expressing oil, rope-making, and weaving cotton carpets.

Until 1903 the Punjab possessed no reformatory, but in that year one was opened at Delhi and placed under the Educational department. Nothing can be said yet with regard to its working.

Education.

Prior to the constitution of the Punjab in 1849, Government schools existed in the Districts of the Delhi territory which then formed part of the old North-Western Provinces, and in the rest of the Province indigenous schools afforded a foundation for the present educational system. Under the Sikhs, teaching as a profession was almost entirely in the hands of the Muhammadans, who, besides teaching the Korān in the mosques, gave instruction in the Persian classics. On these schools were grafted the earliest Government vernacular schools. Purely Hindu schools were rare, being either colleges in which Brāhman boys learnt Sanskrit and received a half-religious, half-professional training, or elementary schools where sons of Hindu shopkeepers were taught to keep accounts and read and write the traders' scripts. The few Gurmukhī schools that existed were of a purely religious character. The best feature of the indigenous schools was that they were not confined to the religious and mercantile classes, but were open to the few agriculturists who cared to attend them. After annexation the Christian missions established several schools, that at Lahore as early as 1849. Government soon followed their example and founded schools in the cities and larger towns, while District officers founded and maintained schools at minor places out of Local funds.

In 1854 the Educational department was first organized. It was administered by a Director of Public Instruction, with 2 inspectors, 10 deputy, and 60 sub-deputy-inspectors. The schools directly supported by Government numbered 108 (4 District, 100 *tahsīl*, and 4 normal schools). The department cost about 2 lakhs per annum, and in addition a cess of 1 per cent. on the land revenue provided for the maintenance of numerous village schools. The Persian script, already in use throughout the Western Punjab, and in two-thirds of the indigenous schools of the eastern Districts, was unhesitatingly adopted as the standard; but the choice of a language offered greater difficulties. Punjābi is not a literary language; and Urdū, though

unpopular, was so generally in use, especially in the law courts, that it was perforce adopted. Gurmukhī and Hindī schools were, however, to be encouraged wherever the people desired them.

Difficulties in administration soon arose. All the schools were under the direct control of the department, and District officers were dissociated from their working. The lower grades of officials were foreigners, imported from Hindustān and without influence over the people. Accordingly, in 1860, all the vernacular schools were entrusted to the Deputy-Commissioners and *tahsīldārs*, the unpopular inspecting agency being abolished. But this measure failed to provide for the professional supervision of the schools, and it was soon found necessary to appoint an inspector in each District as the Deputy-Commissioner's executive agent and adviser in their management. In the same year provision was made for the levy of school fees. Superior Anglo-vernacular *zila* (District) schools were also established, and the personnel and curriculum in all schools improved. In 1864 Government colleges were established at Lahore and Delhi, and in 1865 a scheme for an Oriental University was formulated. In 1868–70 the status of village schoolmaster was improved, the minimum salary being fixed at Rs. 10 a month; but funds ran short, and, as the immediate result of this measure, a number of schools were closed. The decentralization of finances in 1871, however, enabled the Local Government to devote more adequate funds to education, and the village schools rose rapidly in numbers and efficiency.

As now constituted, the inspecting staff of the department consists of a Director of Public Instruction, 5 Inspectors, 2 Inspectresses, 9 assistant inspectors, 28 District inspectors, 24 assistant District inspectors, and 2 assistants to the Inspectresses. The Director and two of the Inspectors are Europeans and members of the Indian Educational Service, as are the principal and three professors of the Government College, the principal and the vice-principal of the Central Training College, the principal of the Mayo School of Art, and the head master of the Central Model School, Lahore. The rest of the staff is drawn from the Provincial service, which also supplies a professor and five assistant professors to the Government College, the vice-principal of the Mayo School, the assistant superintendent of the Central Training College, the registrar of the office of the Director of Public Instruction, the superintendent, reformatory school, and the reporter on books, Educational department. Four members of this service are Europeans. The assistant inspectors are selected from the Subordinate service, which comprises 197 appointments in all, and supplies teachers to the principal colleges and schools. The majority of the teaching staff, except that of the Government high schools, are, however, employed by local bodies, District boards, and municipal

committees, which engage teachers for the schools under their control subject to certain departmental rules, or borrow members from the Subordinate service for the more important posts.

The Punjab University at Lahore was established in 1882. Prior to that year colleges and schools had been affiliated to the Calcutta University. In 1868 a proposal to establish a Punjab University had been negatived by the Government of India; but a grant-in-aid of Rs. 21,000, equal to the annual income from private sources, was sanctioned for the improvement of the existing Government College at Lahore, and in 1870 Sir Donald McLeod inaugurated the new Punjab University College. The senate of this institution established an Oriental school and college at Lahore, its objects being to promote the diffusion of European science, as far as possible, through the medium of the vernacular languages, and the improvement and extension of vernacular literature generally; to afford encouragement to the enlightened study of Eastern classical languages and literature; and to associate the learned and influential classes with Government in the promotion and supervision of popular education.

In 1877, on the occasion of the Imperial Assemblage at Delhi, the movement in favour of a Punjab University was revived, and resulted in its incorporation under Act XVII of 1882. The University was empowered to grant degrees in Medicine in 1886, and degrees in Law and Science in 1891. There are five Faculties—Oriental Learning, Arts, Law, Medicine, Science and Engineering. The Syndicate is the executive committee of the Senate. Under the Indian Universities Act of 1904 the Senate has been reconstituted. It now consists of 75 ordinary fellows, of whom 60 are nominated by the Chancellor and 15 elected by the Chancellor's nominees. There are also 10 *ex-officio* fellows, 2 of whom are also ordinary fellows.

Prior to 1870 the Calcutta University had dominated the higher secondary education of the Punjab; but soon after that year the Lahore College began to hold its own examinations, which were better adapted to the requirements of the Province. After its incorporation as a University the number of graduates was at first very small, only 16 qualifying in 1883–4, in which year the expenditure was Rs. 21,000. In the next six years, however, progress was rapid. Diplomas, being passports to higher employment under Government, were eagerly sought after, and in 1889–90 as many as 41 students graduated, and the expenditure had risen to Rs. 60,912.

In 1883–4 there were only three Arts colleges: the Government and Oriental Colleges at Lahore, and St. Stephen's College at Delhi. The number of candidates for matriculation was 551, and of passes 224, the average cost of each student's education being Rs. 400, and the total expenditure on colleges Rs. 79,223. By 1889–90 the number of

Arts colleges had risen to seven, and that of matriculation candidates to 1,016. Passes had increased to 462, and the expenditure to Rs. 2,06,346, while the cost of each student's education had fallen by Rs. 65, owing to the levy of higher fees and the larger number of students. In 1888 the Dayānand Anglo-Vedic School at Lahore, established by the Arya Samāj, was raised to the status of a college, and became in a few years one of the most largely attended in the Province. Another important unaided institution, the Islāmia College at Lahore, was opened in 1892 by the Muhammadan community; and in 1897 the Sikhs established the Khālsa College at Amritsar. By 1900–1 the number of Arts colleges had risen to 12, with 2,148 matriculation candidates and 1,214 passes. Expenditure had risen to Rs. 2,89,582, but the average cost of a student's education was only Rs. 185, or less than half its cost in 1883–4.

The only college which imparts higher professional teaching is the Lahore Medical College. Established in October, 1860, it was raised to collegiate status in 1870. In the latter year it had 68 students. In 1887–8 a monthly fee of Rs. 2 was imposed. In 1889 the erection of the Lady Lyall Home for female students added to its usefulness.

The Law School at Lahore is of collegiate status, and prepares students for the degree of Bachelor of Laws. Founded in 1870 with two departments, an English and a vernacular, and a two years' course, it was remodelled in 1889–90, and the course extended to three years, only graduates in Arts being admitted to the Licentiate in Law examinations. In 1891–2 intermediate and LL.B. classes were formed, and two sets of examinations prescribed, one leading to the Licentiate, the other to the LL.B. degree. In 1897–8 the number of students had reached 434, the highest limit; but the supply of trained lawyers was in excess of the demand, and in the next three years the numbers fell to 248.

The following table shows the chief results of university examinations:—

Passes in	1883–4.	1890–1.	1900–1.	1903–4.
Matriculation . . .	224	384	1,214	1,121
First or Intermediate in Arts or Science . . .	39	87	244	233
Ordinary Bachelors' degrees	13	41	127	133
Higher and special degrees	3	8	42	42

Secondary schools are either middle or high. A middle school usually contains a primary as well as a middle department. A high school, in addition to its high department, usually contains these two also. The middle course extends over three classes, and terminates in the case of vernacular schools in the middle school examination.

The high-school course extends over two years, and ends with the entrance examination of the Punjab University. English is not taught in the vernacular schools, and is commenced only at the upper primary stage in the Anglo-vernacular schools. The vernacular is thus the medium of instruction for all departments up to the third middle class, English being the medium only in the high department.

The effective organization of secondary education dates from 1860. As education spread, it became easier to obtain men capable of teaching up to the entrance standard, and it was thus found possible to increase the number of high schools at comparatively small cost. The vernacular middle schools progressed even more markedly. In 1877 the Punjab Textbook Committee was appointed to prepare suitable English and vernacular Readers, and in 1880–1 the establishment of the Central Training College helped to provide better qualified teachers.

In 1883–4 there were 25 high schools with 912 scholars, and 198 middle schools with 5,107 scholars. In the next six years the number of high schools had risen to 41, with a satisfactory increase in the numbers on the rolls; and though the number of middle schools had decreased, the number of scholars had risen. After 1882, in accordance with the recommendations of the Education Commission, all schools except those attached to training institutes were made over to local bodies for management, and rules were framed to encourage their conversion into aided schools, the further extension of secondary education being made dependent on private institutions. Scholarships were made tenable on a uniform system, and Jubilee (now known as Victoria) scholarships and *zamīndāri* scholarships were founded to foster education among Muhammadan and Hindu agriculturists. Fees were raised, and a system of payment by results was introduced into the grant-in-aid rules. Special attention now began to be paid to moral and physical instruction and to school discipline. In furtherance of the new educational policy of the Government of India, one high school in each District has, since 1904, been maintained as a state institution.

The first step in primary education was an attempt to raise the indigenous schools of the Punjab to a higher level of efficiency. But this scheme failed; and it was found necessary to convert the principal indigenous schools into Government schools, or branches of mission schools, or to bring them more or less under the influence of District or municipal committees. The educational cess, however, realized so little that salaries sufficient to attract competent teachers could not be offered, although no attempt was made to provide a school for every group of villages. It was accordingly resolved to reduce a number of schools in order to raise the efficiency of the remainder. The result was that schools were accessible only to a small proportion of the boys of school-going age; and Sir Charles Aitchison recognized the necessity

of improving the indigenous schools, without destroying their distinctive character, by the offer of liberal grants-in-aid on easy conditions. The system was accordingly reorganized, the management of the schools being transferred to local bodies, which were, on the other hand, required to devote a fixed proportion of their income to primary education. Revised grant-in-aid rules provided for payment by results and staff grants to certificated teachers employed in aided schools. Specially liberal grants were made to indigenous and low-caste schools. The introduction of inter-school rules and good-conduct registers conduced to the moral, as the gymnastic instruction did to the physical progress of the boys. The recommendations of the Education Commission of 1883 rendered it possible to give effect in greater detail and with greater precision to the policy inaugurated by Sir C. Aitchison. Schools and scholars increased in numbers and efficiency, though the imposition in 1886 of higher fees on sons of non-agriculturists reduced the number of boys of that class in the lower primary department. By 1889–90 the number of aided schools had risen to 300, with 10,000 pupils; and they continued to progress until 1896–7, when the growing popularity of the Government schools, combined to some extent with the pressure of bad seasons, checked their advance. On the other hand, the District boards, with many pressing calls on their resources, could not meet the demand for primary education. Numerically, primary schools show but a slow advance, but in efficiency their progress has been marked. The abolition of the lower primary examination in 1898 enabled the course of instruction to be made continuous for fully five years, and permitted controlling officers to devote more time to questions of organization and discipline, methods of instruction, and so on, at their inspections. In the upper primary department more time was allotted to object lessons and elementary science.

In 1886 the necessity of a simpler and more practical curriculum for sons of agriculturists led to the establishment of *zamīndāri* schools. In these, half-time attendance only is required, and they are closed during each harvest. Elementary reading and writing, in the character chosen by the people, and arithmetic by native methods, are taught. Qualified teachers in these schools received extra pay, and arrangements were also made to train teachers in those subjects in the normal schools. From 1886 to 1892 the schools prospered; but the people then began to realize that they led to nothing, as they did not fit boys for Government employ, and ever since they have been losing ground. In 1901 the *zamīndāri* schools numbered only 187, with 3,887 pupils. In view of their increasing unpopularity, steps were taken in 1904 to open village schools with a simpler course of studies, planned with special reference to the requirements of agriculturists. The Punjab possesses a few special low-caste schools. These are mainly dependent upon

missionary enterprise, and are, like all indigenous schools, eligible for grants-in-aid on easy conditions.

Encouraged by results in the United Provinces, several girls' schools were opened in the Punjab as early as 1855, and in 1862 Sir Robert Montgomery held a great *darbār* at Lahore in order to enlist the co-operation of the chiefs and notables of the Province. Under this impulse nearly 1,000 schools with 20,000 girls had been opened by 1866, but the results were unsubstantial and the attendance soon fell off. A sound system of female education was only founded in 1885-6, in which year it was attempted to make the existing schools places of healthy elementary education, adapted to the simple requirements of the people, and rewards for diligent work were substituted for payments for mere attendance. An Inspectress of Schools was appointed in 1889. As yet, however, female education can hardly be said to have taken firm root except in the Central Punjab (Lahore, Amritsar, Gujrānwāla, Siālkot, and Jullundur), where Sikh influences are strong, and among the Hindu element in the western Districts. There is, however, throughout the Province much private teaching, almost exclusively religious, by Hindu, Sikh, and Muhammadan women, and, as far as religious objections allow, by the ladies of the Zanāna and other Christian missions. And the most gratifying feature of recent years has been the steady increase of private enterprise on behalf of female education, several unaided schools, notably the Kanya Mahā Vidyālla at Jullundur, having been opened. The establishment in 1905 of the Normal School for Women at Lahore marks a new era in the development of female education in the Province. Its success, which depends much on the sympathetic co-operation of the educated classes, will to a considerable extent remove one great obstacle in the way of the advancement of the education of girls—the lack of qualified women teachers.

The Lahore Central Training College was opened in 1881, the first of its kind in India. Since its foundation most of the secondary schools have been supplied with trained teachers, and a few years ago the Punjab was able to spare a number of trained and experienced men to assist in revising and improving the training school system in the United Provinces. There were at first two classes: the senior English, which prepared teachers for higher work in English secondary schools; and the senior vernacular, which trained men for all kinds of purely vernacular teaching in secondary schools. In 1883-4 a junior English class was opened, to train teachers for the primary classes of Anglo-vernacular schools. With the extension of university education, the preliminary educational qualifications were raised; and since 1896 only B.A.'s, or those who have read up to that standard in a recognized college, are admitted to the senior English class. For admission to the junior English class men must have either passed the inter-

mediate examination or attended the classes of a college for two years. In 1904 this institution was completely reorganized. The staff has been strengthened, the period of study has been raised to two years, a clerical and commercial class has been added, and the number of available stipends much increased. A teacher's degree examination, open to all graduates in Arts who have attended the Central Training College for another year after passing the senior Anglo-vernacular certificate examination, has also been instituted.

Normal schools were originally founded to train teachers for both middle and primary schools, but have been restricted to training for the latter alone since the organization of the Central Training College. The schools are under the control of the Inspectors; and in pursuance of the policy of having one in each circle, normal schools were established at Jullundur in 1887 and at Multān in 1891.

Prior to 1886 the Medical and Veterinary Colleges, the Law School, the Engineering Class of the Punjab University, and the Mayo School of Industrial Art were the only real technical institutions in the Province, the few so-called industrial schools being mere workshops in which inferior articles were made at a high cost. In the three following years, however, some progress was made, the chief step being the establishment of the Railway Technical School at Lahore, to provide instruction for the children of the railway workshop employés. This school has a primary and a middle department; the course of study is much the same as in the ordinary schools, with a progressive course of carpentry, drawing, and practical geometry. The functions of the Mayo School were also extended, and private industrial schools were encouraged. An entrance examination in science and a clerical and commercial examination were also instituted, the one in 1897, and the other in 1900. The movement thus begun bears fruit, and some industrial schools have sprung up at the larger training centres, such as Amritsar, Ludhiāna, and Delhi; but the number of students is still small. In ordinary schools also the course of study has been remodelled, so as to include practical mensuration and agriculture in primary schools, and to develop the powers of observation by object lessons.

The schools for Europeans and Eurasians in the Punjab were included in the scope of Archdeacon Baly's inquiry in 1881. No less than 440 children of school-going age were then found to be receiving no education whatsoever. Under the Resolution of the Government of India passed in that year, however, the grants to existing schools were increased, and Rs. 11,945 was given by Government for enlarging school-houses.' The absence of an enactment making attendance at school compulsory, the apathy of parents, and the migratory character of the European and Eurasian community have been great obstacles to advancement. The schools, especially in the plains, labour under

many disadvantages, the lack of trained teachers being especially felt. Of recent years the progress made has, nevertheless, been considerable. In 1903, 46 Europeans and Eurasians passed the matriculation, 94 the middle, and 102 the primary school examination.

When in 1871 attention was first directed to the backwardness of education among Muhammadans in India, inquiry showed that in the Punjab the Musalmān community had availed itself of the facilities offered as fully in proportion to its numbers as the Hindus. Much had been done to foster the study of Arabic and Persian. Indeed, the latter had been favoured at the expense of vernacular languages and literatures, and it was felt that no special measures for the advancement of Muhammadan education were required. It was, however, found that Muhammadans seldom prosecuted their studies beyond the middle schools, and that few attended colleges. Muhammadan boys spent years in learning the Korān by rote in the mosques, and thus reached manhood before their education could be completed. The poverty of the Muhammadans as a community, and the fact that they were mostly agriculturists, also militated against their higher education. Progress was, however, made, and in 1883-4 the Muhammadan college students were thrice as numerous as in 1870-1. Nevertheless, their number in the secondary schools and colleges remained proportionately far below that of the Hindus, and the necessity of special measures was realized. In 1887 Jubilee scholarships (now called Victoria scholarships), tenable in high schools and colleges, were founded by Government; and local bodies were authorized to establish them for middle schools. In addition, half the free or semi-free studentships in secondary schools and scholarships were reserved for Muhammadan boys. The community itself also began to realize the necessity for self-help, and various societies were started which organized Anglo-vernacular Muhammadan schools in the cities and large towns. The result was a rapid advance in higher Muhammadan education, though the Hindus and Sikhs still retained the lead. In the ensuing decade the community showed a growing preference for the public schools, especially those in which English was taught, and availed itself fully of the scholarships and studentships offered, though the societies continued to maintain many schools with or without Government grants-in-aid. The following table shows the number of Muhammadans under instruction in public institutions:—

	1891.	1901.	1904.
Arts colleges	123	309	338
Secondary schools	13,900	19,512	21,133
Primary schools	36,252	43,772	50,440
Special schools	513	1,224	1,103

In 1883–4 the proportion of the population of school-going age in the Punjab under instruction was 4·2 per cent., and in the course of the next six years it rose to 7·8 per cent., but since then it has showed no advance. This is mainly due to the steady decline of private schools which do not conform to any of the departmental standards, and are not inspected by the department. People either send their boys to the public schools, or keep them at home to help in domestic or other work. The percentage of males in British Districts able to read and write was 6·8 according to the Census of 1901, and that of females 0·37. The most advanced Districts are Simla, Amritsar, and Multān; the most backward are Hissār, Rohtak, and Gurgaon.

Fees in Government schools and colleges are fixed, and the proportion of free and half-rate studentships is also specified. Schools and colleges which receive aid from Government are bound to observe the rules laid down for them in this behalf. Unaided schools, however, are quite free in the matter of fees. The majority of them charge very low fees, as compared with the Government and aided institutions.

The following table shows the main features of educational finance in 1903–4:—

EXPENDITURE ON INSTITUTIONS MAINTAINED OR AIDED BY PUBLIC FUNDS

	Provincial revenues.	District and municipal funds.	Fees.	Other sources.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
Arts and professional colleges	1,71,718	7,983	68,282	28,198	2,76,181
Training and special schools	1,05,748	10,930	8,760	28,665	1,54,103
Secondary boys' schools	1,00,549	2,77,256	4,42,744	99,424	9,19,973
Primary boys' schools	8,123	3,58,909	91,897*	...	4,58,929
Girls' schools	69,904	63,141	42,303	79,936	2,55,284
Total	4,56,042	7,18,219	6,53,986	2,36,223	20,64,470

* Including receipts from other sources.

In 1901 the number of publications registered under the Printing Press and Books Act was 1,478. Of these, 425 were poetical works and 409 religious treatises. Language and pictures came next, with 113 and 82 respectively. Except perhaps in its popular poetry modern Punjab literature displays little originality, and many of its productions are merely translations of English works into the various languages and scripts of the Province.

The number of newspapers published in 1903 was 209. The only important English newspapers are the *Civil and Military Gazette* and the *Morning Post*, published daily at Lahore and Delhi respectively. The native-owned newspapers include 31 published in English, 1 in

English and Urdū, 164 in Urdū, 6 in Hindī, and 7 in Gurmukhī. The leading papers are more or less actively political, their columns being devoted mainly to the criticism of Government measures and policy. Generally speaking, these journals are either sectarian, or the mouthpieces of various classes or cliques of the educated community. Few are of much importance, and many are little more than advertising sheets. The *Tribune* and the *Observer*, published in English at Lahore, are the leading Hindu and Muhammadan organs respectively.

Medical.

The Civil Medical department is controlled by an Inspector-General of Civil Hospitals. The department was organized in 1880, prior to which year hospitals were under the Inspector-General of Prisons. Each District is under the medical charge of a Civil Surgeon, who is stationed at the District head-quarters (Simla has two officers of this class); but in the summer months a Civil Surgeon is stationed also at Murree, and the Civil Surgeon of Gurdāspur District is transferred to Dalhousie. As a rule, the chief hospital of each District is at its head-quarters, and is in charge of a Civil Assistant Surgeon, who after a five years' course at the Lahore Medical College has qualified for the diploma of Licentiate of Medicine and Surgery of the Punjab University; the minor hospitals and dispensaries in the outlying towns of the District are in charge of Hospital Assistants, who have qualified by a four years' course at the college. The work is supervised by the Civil Surgeon, who is required to inspect each dispensary four times a year.

The progress made since 1881 may be gathered from Table XVII attached to this article (p. 394). The number of hospitals and dispensaries has risen by 44 per cent., and in-patients in much the same ratio, while out-patients have more than doubled. The contribution from Government has slightly decreased; but the income from Local and municipal funds has more than doubled, and that from fees, endowments, and other sources has also increased very largely.

The only institution maintained by Government is the Mayo Hospital at Lahore, an integral part of the Medical College, to which it affords clinical instruction. Before the establishment of this college the Subordinate medical service was recruited from the Calcutta College, whose candidates were mostly Bengalis. Partly to obtain recruits locally, and partly with the object of popularizing Western medicine throughout the Province, a medical school was established in 1860 at Lahore, and in 1870 its status was raised to that of a college. The buildings consist of one large block, containing three class-rooms, a dissecting room, a chemical laboratory, several museums, and a large central hall, to which have been added in recent years a large and well-equipped dissecting room with a lecture theatre capable of accommodating 400 students, and pathological and physiological teaching

laboratories, with a post-mortem theatre and mortuary. The teaching staff now consists of 8 professors, 6 lecturers, a demonstrator of anatomy, and 3 class assistants. A hostel for female students was built in 1889 by the Punjab committee of the Countess of Dufferin's Fund, chiefly from a donation of Rs. 50,000 given by the Mahārājā of Kashmīr. Arrangements have been made for a similar hostel for male students at a cost of over Rs. 2,00,000. The growth of the college is apparent from the fact that in 1903 it trained 234 students in the English class and 308 in the Hospital Assistant class, compared with 8 and 44 respectively in 1860.

In 1900 a central asylum for lunatics was constructed at Lahore at a cost of 2 lakhs. It is controlled by a commissioned medical officer, with a military Assistant Surgeon as deputy-superintendent. It has accommodation for 468 patients; and in 1903 a separate building, capable of accommodating 120 female lunatics, was erected at a cost of Rs. 74,000. The daily average number of inmates in 1904 was 554. The record of the alleged cause of insanity is usually drawn up by the police and has little scientific value. Of the cases treated in 1904 in which any cause is assigned, 16·59 per cent. were attributed to the excessive use of Indian hemp in one form or another, 8·09 to epilepsy, 0·71 to heat, and 7·09 to moral causes, such as grief, worry, and disappointment.

At Kasauli, a Pasteur Institute was established in 1901 for the treatment of persons bitten by rabid animals, which now treats patients from all parts of India. In 1906 a central Research Institute was founded there, which will provide means for the scientific study of the etiology and nature of disease in India, besides the preparation of curative sera for the diseases of man, and the training of scientific workers. The institution is in charge of a Director, with a staff of assistants.

The practice of inoculation as a protection from small-pox has prevailed in the Punjab from time immemorial. The method adopted was to keep dry crusts from the pustules mixed with grains of rice in a box; when a mild form of the disease was desired, a few grains of rice were inserted into a wound near the base of the thumb, while a severe attack was procured by inserting a little of the powdered crusts. The practice was most prevalent among Muhammadans, and was performed by Saiyids and Mullās as a quasi-religious ceremony. The Hindus of the South-East Punjab did not protect themselves for fear of offending the goddess of small-pox, but elsewhere Rājputs and Nais (barbers) usually acted as inoculators among Hindus. The practice was largely prevalent in Rāwalpindi, Jhang, and Shāhpur Districts as late as 1887, and to a less extent in Karnāl, Hoshiārpur, Kāngra, Multān, and Dera Ghāzi Khān. With a few exceptions, the attempt

to enlist the inoculating classes as vaccinators was not successful. Vaccination is now under the charge of the Sanitary Commissioner, and Civil Surgeons are primarily responsible for vaccinations in their Districts. The staff consists of 5 divisional inspectors, 28 superintendents, and 260 vaccinators. The falling-off of vaccination in 1901 shown in Table XVII attached to this article (p. 394) is chiefly due to plague. Vaccination is compulsory in 23 municipal towns.

The success of the system of selling quinine through the post office in Bengal led to its introduction into the Punjab late in 1894. First introduced experimentally in the Delhi Division, it was extended in 1899 to that of Lahore, and it is now proposed to extend it to all the Districts of the Province, although in 1901 the total sales only amounted to 293 parcels, each containing 102 five-grain packets of quinine. The small measure of success which the system has met with is not easily explained, though it may in part be accounted for by the reluctance of the literate classes, from which the post office officials are drawn, to act as drug-vendors. It is, however, apparent that the people are at present indifferent to the advantages of the system, and, as a rule, little aware of the value of quinine as a prophylactic. In Kāngra, however, in 1905 some 2,300 packets, each containing 102 powders of seven grains each, were distributed at a total cost of Rs. 3,669.

The chief defects of village sanitation are the impurity and contamination of drinking-water, the accumulation of filth, the presence of manure-heaps near the houses, and the existence of ponds of stagnant water in or around the village site. It has been considered inadvisable to legislate for the compulsory sanitation of villages, but District boards are empowered to grant rewards in the form of a reduction of revenue to the villages most active in sanitary improvements.

Surveys.

Surveys in the Punjab have been carried out by two distinct agencies: the local *patwāris* effecting the cadastral or field surveys, and the Survey of India compiling maps based on triangulation. When the revision of a settlement is undertaken, the maps, measurements, and records-of-rights of ownership and actual possession are thoroughly revised by the Settlement officer and a special staff of *tahsīldārs*, *naib-tahsīldārs*, and field *kānungos*. On the conclusion of the operations these records are transferred to the custody of the Deputy-Commissioner, who is henceforth responsible for their maintenance, and correction when necessary. Briefly, the system in force is this: the *patwāri* makes a field-to-field inspection at each harvest, noting all changes in rights, rents, and possession, and all amendments required in the field map. The changes thus noted are recorded, after attestation by a superior revenue officer, in a revised record-of-rights, which is prepared for each village every fourth year and called the *jamabandi*. The Deputy-Commissioner is assisted in

this duty by a revenue assistant (Assistant or Extra Assistant Commissioner), the Director of Land Records acting as his expert adviser in all matters connected with it. The staff consists of a District *kānungo*, with a number of field *kānungos* and *patwāris* or village accountants. In 1904 there were 7,906 *patwāris* and 386 field *kānungos* in the Province. *Patwāris* used to be hereditary village officials, servants of the village community and members of the trading castes; but they are now enlisted without regard to hereditary claims, and more than a third in 1903 were of agricultural castes. Two-thirds have passed the middle-school examination. Candidates go through a practical course in field surveying and land record work in the District *patwāri* school. After passing the examination, they may be appointed on salaries usually rising to Rs. 14 a month. The post is non-pensionable, but a *patwāri* may on retirement receive a gratuity not exceeding Rs. 150. *Patwāris* also receive a share of the fees levied for mutation entries in the record-of-rights. The cadastral survey is made entirely by the *patwāris*, and usually during a resettlement of the land revenue. The system used is a scientific one, known as the square system, and its results are remarkably accurate. It consists in laying out the entire village area into squares, which are also shown on the map. The fields are then plotted in, being co-ordinated to the sides of the squares, and the village maps thus show the boundaries of every field. They are tested by comparison with the survey maps.

In the Chenāb and Jhelum Colonies, in which large areas of Government waste have been brought under cultivation, the square system has been extended to the formation of all fields into squares, equal to $\frac{1}{25}$th of a survey square, i.e. to 1 acre 18 poles. This system of square fields greatly facilitates irrigation and revenue management, and is a safeguard against boundary disputes. It is being gradually extended in some localities to old proprietary lands.

The maps of the Survey of India are based on triangulation carried out between 1850 and 1860. Kashmīr and the North-Western Himālayas were topographically surveyed between 1848 and 1865, and Jhelum and Rāwalpindi Districts (including the recently constituted District of Attock) between 1851 and 1859. These surveys, though excellent, are now out of date in the matter of roads, &c., and do not show village boundaries. The survey of Kāngra, Kulū, the hills of Hoshiārpur, and the Simla Hill States was completed in 1903. The whole of the Punjab plains, with the exception of Hissār, was surveyed between 1846 and 1880, village by village, on the 4-inch scale, and Hissār was surveyed on the 2-inch scale between 1882 and 1884. In 1883 arrangements were made with the Surveyor-General for the revision of the survey maps on the basis of the village maps; and in 1884 a party of the Survey of India began compiling new maps from reductions of these village

plans, checking and revising them in the field, and completed maps of Jullundur, Ludhiāna, Ferozepore, Ambāla, and Jhang Districts, and of the plains portions of Hoshiārpur. To enable this work to be extended, traverses were run over Shāhpur, Gujrāt, Gujrānwāla, Siālkot, Gurdāspur, and Amritsar Districts. The party was withdrawn in 1889, but in 1901 the work was recommenced. Lahore was completed by 1906, and the work is progressing in Amritsar, Montgomery, Multān, and Muzaffargarh. In addition to this, riverain surveys are being carried out to enable boundaries to be relaid in the areas subject to floods. Several lines of spirit-levels have also been run through portions of the Province. The Cis-Sutlej States were surveyed during 1846–7 on the 1 inch to the mile scale, and Patiāla, Jīnd, Nābha, &c., in 1861–2 on the same scale. The large State of Bahāwalpur was surveyed during 1869 to 1875, the inhabited area village by village on the 4-inch, and desert tracts on the 2-inch scale. Kapūrthala State was resurveyed when Jullundur was surveyed between 1884 and 1889.

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TABLE I. Temperature in the Punjab

Station.	Height in feet of Observatory above sea-level.	Average temperature (in degrees Fahrenheit) for twenty-five years ending with 1901 in							
		January.		May.		July.		November.	
		Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.
Delhi	718	59·0	22·3	92·6	24·1	87·7	13·6	69·8	26·4
Lahore	702	54·8	27·7	89·3	32·9	90·4	21·1	65·8	36·1
Rāwalpindi	1,676	50·3	24·6	82·9	29·5	87·1	21·1	60·6	33·2
Siālkot *	830	54·4	23·0	88·7	28·2	88·8	18·1	65·8	30·7
Multān	420	56·5	26·6	91·8	28·8	94·0	20·1	68·6	31·6
Montgomery †	558	55·0	26·4	92·9	29·8	94·3	21·2	68·0	33·2
Hill Station—Simla ‡	7,224	39·4	10·1	65·8	14·8	64·8	9·1	50·6	11·0

NOTE.—The diurnal range is the average difference between the maximum and minimum temperatures of each day.
* The figures are for twenty-four to twenty-five years. † The figures are for twelve years only. ‡ The figures are for nine to ten years only.

TABLE II. Rainfall in the Punjab

Station.	Average rainfall (in inches) for twenty five years ending with 1901 in												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total of year.
Delhi	1·26	0·70	0·50	0·27	0·69	3·25	7·98	8·03	3·95	0·27	0·11	0·64	27·65
Lahore	1·14	1·20	0·67	0·54	0·83	1·86	5·94	5·00	2·11	0·21	0·12	0·46	20·08
Rāwalpindi	2·92	2·35	1·84	1·90	1·61	1·88	8·00	7·98	3·37	0·55	0·47	1·03	33·90
Siālkot	2·54	1·84	1·12	1·00	1·04	2·77	7·95	9·08	2·86	0·28	0·25	0·73	31·46
Multān	0·41	0·42	0·34	0·15	0·38	0·55	2·12	1·92	0·65	...	0·07	0·26	7·27
Montgomery	0·57	0·80	0·43	0·21	0·52	1·19	2·82	2·20	0·82	0·06	0·08	0·29	9·99
Hill Station—Simla	3·02	3·25	2·22	1·73	3·20	7·41	16·54	17·63	5·57	0·98	0·58	1·50	63·63

TABLE III. Distribution of Population, Punjab, 1901

	Area in square miles.	Number of towns.	Number of villages.	Total population.			Urban population.			Persons per square mile in rural areas.
				Persons.	Males.	Females.	Persons.	Males.	Females.	
British Territory.										
Hissār	5,217	8	964	781,717	418,167	363,550	97,995	51,602	46,393	131·1
Rohtak	1,797	11	491	630,672	333,217	297,455	92,412	46,625	45,787	299·5
Gurgaon	1,984	8	1,171	746,208	390,443	355,765	76,771	39,410	37,361	337·4
Delhi	1,290	4	714	689,039	371,864	317,175	231,381	126,344	105,037	359·5
Karnāl	3,153	7	1,383	883,225	478,953	404,272	90,308	46,571	43,737	251·5
Ambāla	1,851	7	1,718	815,880	451,581	364,299	125,902	72,210	53,692	372·8
Simla	101	6	45	40,351	26,164	14,187	18,902	13,530	5,372	212·4
Total, Delhi Division	15,393	51	6,486	4,587,092	2,470,389	2,116,703	733,671	396,292	337,379	250 6
Kāngra	9,978	3	715	768,124	399,106	369,018	16,179	9,782	6,397	75·4
Hoshiārpur	2,244	11	2,117	989,782	525,854	463,928	72,324	38,503	33,821	408·8
Jullundur	1,431	10	1,216	917,587	496,690	420,897	134,257	72,785	61,472	547·4
Ludhiāna	1,455	5	864	673,097	369,165	303,932	86,966	46,833	40,133	402·8
Ferozepore	4,302	8	1,503	958,072	524,306	433,766	86,024	50,331	35,693	202·7
Total, Jullundur Division	19,410	37	6,415	4,306,662	2,315,121	1,991,541	395,750	218,234	177,516	201·5
Montgomery	4,771	3	1,371	497,706	268,606	229,100	19,770	11,189	8,581	100·2
Lahore	3,704	7	1,533	1,162,109	640,449	521,660	256,090	147,934	108,156	246·3
Amritsar	1,601	5	1,042	1,023,828	559,855	463,973	186,449	105,988	80,461	526·0
Gurdāspur	1,889	11	2,244	940,334	509,951	430,383	70,565	38,263	32,302	460·4
Siālkot	1,991	7	2,348	1,083,909	573,259	510,650	89,580	47,957	41,623	499·4
Gujrānwāla	3,198	8	1,331	890,577	485,260	405,317	78,221	40,864	37,357	254·0
Total, Lahore Division	17,154	41	9,869	5,598,463	3,037,380	2,561,083	700,675	392,195	308,480	286·1
Gujrāt	2,051	4	1,336	750,548	389,402	361,146	41,893	21,002	20,891	345·5
Shāhpur	4,840	5	789	524,259	273,144	251,115	55,852	28,421	27,431	96·8
Jhelum	2,813	4	888	501,424	253,058	248,366	40,581	21,805	18,776	163·8
Rāwalpindi	2,010	2	1,180	558,699	299,893	258,806	89,532	58,823	30,709	233·4
Attock	4,022	4	614	464,430	242,398	222,032	24,109	13,156	10,953	109·5
Total, Rāwalpindi Division	15,736	19	4,807	2,799,360	1,457,895	1,341,465	251,967	143,207	108,760	161·9

TABLE III. Distribution of Population, Punjab, 1901 (*continued*)

	Area in square miles.	Number of towns.	Number of villages.	Total population.			Urban population.			Persons per square mile in rural areas.
				Persons.	Males.	Females.	Persons.	Males.	Females.	
Miānwāli	7,816	5	426	424,588	224,008	200,580	29,555	15,055	14,500	50·5
Jhang	6,652	3	1,896	1,002,656	559,295	443,361	49,238	27,198	22,040	143·3
Multān	6,107	6	1,351	710,626	388,570	322,056	108,651	60,430	48,221	98·6
Muzaffargarh	3,635	4	700	405,656	220,207	185,449	12,684	6,998	5,686	108·1
Dera Ghāzi Khān	5,306	5	713	471,149	256,381	214,768	43,276	23,684	19,592	80·6
Total, Multān Division	29,516	23	5,086	3,014,675	1,648,461	1,366,214	243,404	133,365	110,039	93·9
Baloch Trans-Border	...	...	...	24,087	13,459	10,628	...	...	...	...
Total, British Territory	97,209	171	32,663	20,330,339	10,942,705	9,387,634	2,325,467	1,283,293	1,042,174	185·2
Native States.										
Patiāla	5,412	14	3,580	1,596,692	877,197	719,495	175,368	95,719	79,649	262·6
Jīnd	1,259	7	439	282,003	153,376	128,627	40,487	21,927	18,560	191·8
Nābha	928	4	488	297,949	165,386	132,563	36,614	20,564	16,050	281·6
Bahāwalpur	15,000	10	960	720,877	395,684	325,193	69,864	38,727	31,137	43·4
Sirmūr	1,198	1	973	135,687	75,461	60,226	6,256	3,611	2,645	108·0
Lohāru	222	1	56	15,229	8,160	7,069	2,175	1,117	1,058	58·8
Dujāna	100	1	30	24,174	12,481	11,693	5,545	2,723	2,822	186·3
Pataudi	52	1	40	21,933	11,511	10,422	4,171	2,121	2,050	341·6
Kalsia	168	2	181	67,181	36,980	30,201	10,161	5,382	4,779	339·4
Simla Hill States	5,918	3	1,527	389,349	206,206	183,143	8,376	4,873	3,503	64·4
Kapūrthala	630	6	597	314,351	169,797	144,554	47,520	26,462	21,058	423·5
Mandī	1,200	1	146	174,045	90,896	83,149	8,144	4,928	3,216	138·3
Māler Kotla	167	1	115	77,506	41,915	35,591	21,122	10,815	10,307	337·6
Suket	420	2	28	54,676	28,964	25,712	2,179	1,165	1,014	125·0
Farīdkot	642	2	167	124,912	69,321	55,591	19,924	11,195	8,729	163·5
Chamba	3,216	1	1,670	127,834	66,474	61,360	6,000	3,436	2,564	37·9
Total, Native States	36,532	57	10,997	4,424,398	2,409,809	2,014,589	463,906	254,765	209,141	108·4
Grand Total, Punjab	133,741	228	43,660	24,754,737	13,352,514	11,402,223	2,789,373	1,538,058	1,251,315	164·2

Note.—The areas given are supplied by the Surveyor-General of India. Lyallpur District was formed in 1904 out of portions of the Districts of Montgomery and Jhang; it has an approximate area of 3,075 square miles and a population of 654,666, and contains 1 town and 1,141 villages.

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TABLE IV

STATISTICS OF AGRICULTURE, PUNJAB

(In square miles)

	1888-90 (average).	1891-1900 (average).	1900-1.	1903-4.
Total area	89,067	89,711	89,595	89,270
Total uncultivated area	53,644	51,568	48,400	46,958
Cultivable but not cultivated	34,515	32,497	26,635	26,373
Uncultivable (including forests)	19,129	19,071	19,765	20,585
Total cultivated area	35,423	38,143	41,195	42,312
Irrigated from canals	3,160	5,363	8,354	9,336
Irrigated from wells and canals	784	1,117	1,555	1,599
Irrigated from wells	5,674	6,072	5,989	6,124
Irrigated from other sources	86	133	247	311
Total irrigated area	9,704	12,685	16,145	17,370
Unirrigated area (including inundated)	25,719	25,458	25,050	24,942
Total cropped area.				
Rice	1,085	1,055	1,184	1,074
Wheat	9,575	9,847	11,901	12,216
Other food-grains and pulses	16,454	14,899	19,289	16,668
Oilseeds	1,101	1,311	2,705	1,683
Sugar-cane	538	528	514	517
Cotton	1,181	1,231	1,608	1,637
Hemp (*san*)	66	66	73	77
Other fibres	2	4	5	4
Opium	22	14	12	14
Indigo	203	134	142	84
Tea	14	15	16	16
Tobacco	86	80	99	84
Miscellaneous	1,783	2,147	3,366	4,137
Total area cropped	32,110	31,331	40,914	38,211
Area double cropped	3,126	3,507	5,721	5,414

TABLE V

PRICES OF STAPLES IN THE PUNJAB

(In seers per rupee)

Selected staples.	Selected centres.	Percentage of area under crop in 1900–1.	Average for ten years ending 1880.	Average for ten years ending 1890.	Average for ten years ending 1900.	Average for the year 1904.
Wheat	Delhi	29·1	20·39	18·16	15·45	15·87
	Amritsar		23·18	21·41	16·73	18·16
	Rāwalpindi		22·44	20·46	16·25	17·26
Gram	Delhi	12·5	25·77	23·93	21·42	23·35
	Amritsar		29·61	28·78	21·99	28·42
	Rāwalpindi		26·37	25·58	20·55	24·6
Jowār	Delhi	7·0	27·08	23·28	21·60	27·42
	Amritsar		31·38	28·37	20·29	29
	Rāwalpindi		28·37	29·53	24·08	24·96
Bājra	Delhi	10·8	23·65	20·64	18·62	21·75
	Amritsar		26·09	22·06	15·94	24·92
	Rāwalpindi		28·84	28·63	19·97	22·6
Salt	Delhi	...	9·03	11·94	11·24	13·1
	Amritsar		10·53	14·09	12·05	15·54
	Rāwalpindi		10·45	14·24	13·40	16·02

NOTE.—The figures for the famine years 1878, 1879, 1897, and 1900 have been omitted.

TABLE VI. TRADE BY RAIL AND RIVER OF THE PUNJAB (including North-West Frontier Province) WITH OTHER PROVINCES AND STATES (excluding Kashmīr and Ladākh)

(In thousands of rupees)

	1890-1.	1900-1.	1903-4.
Imports.			
Cotton, raw	2,92	4,11	5,01
Cotton twist and yarn	28,56	18,31	32,18
Cotton piece-goods	2,72,83	3,20,03	3,97,20
Grain and pulse	23,20	1,34,15	42,77
Hides and skins	5,99	15,75	14,95
Metals and manufactures of metals	70,33	1,05,73	1,59,07
Oils	13,26	18,97	21,33
Oilseeds	8,50	32,58	25,72
Opium	74	4,06	4,07
Provisions	43,00	31,82	35,31
Salt	6,57	10,65	8,44
Spices	13,54	22,64	26,29
Sugar	1,14,21	1,65,58	2,01,39
Tea	9,57	5,66	10,03
Wood	...	8,16	20,58
Woollen goods	20,70	33,67	37,44
All other articles	2,64,52	3,60,40	4,70,89
Total	8,98,44	12,92,27	15,12,67
Treasure { Government	37,50	1,91,66	1,89,00
Treasure { Commercial	*	*	1,07,81
Total	*	*	2,96,81
Exports.			
Apparel	...	52,31	54,25
Coal and coke	1	19	4
Cotton, raw	35,93	1,06,19	2,55,86
Cotton, manufactured	51,00	75,64	79,24
Wheat	1,97,77	1,65,90	5,43,69
Other grains and pulses	1,02,76	1,06,88	1,04,07
Dyes and tans	10,60	17,47	11,03
Jute and manufactures of jute	4,87	10,55	7,92
Hides and skins	31,32	77,45	63,34
Metals and manufactures of metals	13,44	12,12	17,06
Leather	20,41	13,37	13,73
Oils	2,07	9,68	2,44
Oilseeds	16,08	59,74	43,50
Provisions	29,32	27,43	17,53
Railway plant and rolling stock	10,77	26,73	31,82
Spices	11,30	12,84	12,74
Sugar	21,55	24,62	14,83
Tobacco	86	4,43	2,73
Wool, raw	23,30	23,54	30,04
Wool, manufactured	35,28	57,73	30,07
All other articles	97,22	1,14,82	1,33,26
Total	7,15,86	9,99,63	14,69,19
Treasure { Government	7,19†	36,07	72,01
Treasure { Commercial	*	39,48	40,78
Total	7,19†	75,55	1,12,79

* Not available. † Currency figures only.

TABLE VII

TRADE OF THE PUNJAB WITH KASHMĪR AND LADĀKH

(In thousands of rupees)

	1890-1 (including trade through Hazāra).		1900-1 (including trade through Hazāra).		1903-4 (excluding trade through Hazāra).	
	Kashmīr.	Ladākh.	Kashmīr.	Ladākh.	Kashmīr.	Ladākh.
Imports.						
Total imports.	54,32	3,42	1,29,15	4,18	98,01	6,21
Treasure:—						
Government	...	...	...	...	10,11	...
Commercial	1,67	...	5,20	1	9,41	...
Total	1,67	...	5,20	1	19,52	...
Exports.						
Total exports.	56,52	2,76	95,64	2,17	78,66	3,07
Treasure:—						
Government	...	...	6,00	...	...	...
Commercial	10	10	3,24	33	4,10	45
Total	10	10	9,24	33	4,10	45

TABLE VIII

STATISTICS OF CRIMINAL JUSTICE, PUNJAB

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1904.	Percentage of convictions in 1904.
Number of persons tried:					
(a) For offences against person and property	100,186	121,939	116,446	134,070	15
(b) For other offences against the Indian Penal Code . .	21,456	23,151	21,713	26,656	20
(c) For offences against special and local laws . . .	51,255	70,117	63,010	79,791	53
Total	172,897	215,207	201,169	240,517	28

TABLE IX

STATISTICS OF CIVIL JUSTICE AND REVENUE COURT CASES, PUNJAB

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1904.
Suits for money and movable property	212,313	211,844	201,423	180,105
Title and other suits . . .	37,740	34,263	30,811	30,040
Rent suits *	1,778‡	1,201‡	275‡	497
Other Revenue Court cases † .	20,330‡	34,111‡	36,415‡	32,944
Total	272,161	281,419	268,924	243,586

* The figures for rent suits and other Revenue Court cases for 1881-4 are for institutions; those for the remaining years for disposals only.

† Other Revenue Court cases include figures for execution of decrees of Revenue Courts throughout, with the exception of the years 1880-4 and 1888 and 1889, for which the data are not available.

‡ These figures are for the old Province.

TABLE X

Principal Sources of Provincial Revenue, including North-West Frontier Province up to March 31, 1901, but for Punjab as now constituted for the Year 1903–4

(In thousands of rupees)

	Average for ten years ending March 31, 1890.		Average for ten years ending March 31, 1900.		Year ending March 31, 1901.		Year ending March 31, 1904.	
	Total raised in Province (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total raised in Province (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total raised in Province (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total raised in Province (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.
Land revenue	2,12,73	72,90	2,40,29	98,98	2,43,75	1,12,24	2,33,32	1,41,06
Stamps	35,04	20,84	42,06	29,56	42,80	32,10	40,48	30,36
Excise	13,55	7,98	21,33	6,23	26,01	6,50	28,00	7,00
Provincial rates	33,45	4,84	41,80	5,92	42,28	5,89	44,77	6,18
Assessed taxes	6,96	3,28	12,95	6,47	14,80	7,40	11,70	5,85
Forests	8,52	3,58	10,68	5,34	13,51	6,75	17,18	8,59
Registration	2,10	1,28	3,29	1,65	3,47	1,74	2,19	1,10
Other sources	40,69	40,53	38,80	30,23	44,91	33,16	48,16	30,46
Total	3,62,04	1,55,23	4,11,20	1,84,38	4,31,53	2,05,78	4,25,80	2,30,60

TABLE XI

PROVINCIAL EXPENDITURE, INCLUDING NORTH-WEST FRONTIER PROVINCE UP TO MARCH 31, 1901, BUT FOR PUNJAB AS NOW CONSTITUTED FOR THE YEAR 1903–4

(In thousands of rupees)

	Average for ten years ending March 31, 1890.	Average for ten years ending March 31, 1900.	Year ending March 31, 1901.	Year ending March 31, 1904.
Opening balance	90	2,47	...	25,25
Charges in respect of revenue collection	23,76	31,30	35,05	35,93
Salaries and expenses of Civil Departments:—				
(*a*) General administration	10,05	10,15	10,05	9,25
(*b*) Law and justice	34,19	41,84	48,68	43,38
(*c*) Police	30,17	38,35	43,81	37,30
(*d*) Education	7,08	7,61	7,63	10,50
(*e*) Medical	4,85	6,40	8,72	11,19
(*f*) Other heads	83	1,06	1,06	2,11
Pensions and miscellaneous civil charges	6,06	9,79	12,84	13,14
Famine relief	...	1,20	...	−2
Irrigation	26	76	1,03	53
Public works	25,94	28,32	25,84	43,85
Other charges and adjustments	10,47	10,07	11,07	16,69
Total	1,53,66	1,86,85	2,05,78	2,23,85
Closing balance	2,47	...	...	32,00

TABLE XII

Income and Expenditure of Municipalities (excluding Notified Areas), Punjab

	1889-90.	Average for ten years 1890-1 to 1899-1900.	1900-1.	1903-4.
Income from—	Rs.	Rs.	Rs.	Rs.
Octroi . . .	22,99,144	25,27,057	27,07,406	30,29,966
Tax on houses and lands . . .	1,17,721	1,37,208	1,37,925	2,37,919
Other taxes . .	42,966	59,162	83,752	1,36,443
Loans . . .	...	2,32,919	1,61,489	6,58,325
Rents and other sources	8,76,838	11,46,599	12,85,011	14,85,673
Total income	33,36,669	41,02,945	43,75,583	55,48,326
Expenditure on—				
Administration and collection of taxes .	4,88,016	5,79,243	6,39,495	7,00,054
Public safety . .	5,14,076	5,66,100	6,39,104	6,93,969
Water-supply and drainage:				
Capital . .	1,32,494	3,19,398	2,70,744	7,53,443
Maintenance .	98,651	1,26,788	1,68,174	2,10,378
Conservancy . .	3,05,986	4,92,286	5,67,395	5,87,339
Hospitals and dispensaries . . .	2,65,265	3,31,091	4,01,272	5,87,909
Public works . .	3,71,801	4,05,426	3,26,225	4,18,253
Education . . .	4,44,628	5,40,690	5,63,852	6,14,382
Other heads . .	8,14,414	7,09,529	8,10,672	8,50,595
Total expenditure	34,35,331	40,70,551	43,86,933	54,16,322

TABLE XIII

Income and Expenditure of District Boards, Punjab

	Excluding the District of Miānwāli.			Whole Province.
	1889–90.	Average for ten years 1890–1 to 1899–1900.	1900–1.	1903–4.
Income from—	Rs.	Rs.	Rs.	Rs.
Provincial rates . .	19,18,204	20,62,940	20,66,918	24,03,661
Interest . . .	1,100	1,124	1,417	1,361
Education . . .	46,858	80,317	1,11,386	1,20,821
Medical . . .	9,326	21,449	25,050	40,662
Scientific, &c. . .	85,814	86,125	87,428	94,085
Miscellaneous . .	70,415	1,28,948	2,35,941	2,88,411
Public works . .	48,233	1,07,151	1,38,919	1,83,233
Pounds . . .	43,436	55,050	53,944	58,273
Ferries . . .	1,44,383	1,51,965	1,62,528	1,51,620
Total income .	23,67,769	26,95,069	28,83,531	33,42,146
Expenditure on—				
Refunds . . .	1,967	2,617	3,168	2,318
General administration	1,05,491	1,14,161	1,28,672	1,35,864
Education . . .	4,68,451	5,76,302	6,12,567	6,68,125
Medical . . .	2,59,894	3,16,238	5,61,538	3,77,654
Scientific, &c. . .	1,15,152	1,45,678	1,52,350	1,33,809
Miscellaneous . .	4,59,708	6,91,402	8,01,814	10,25,264
Public works . .	9,14,242	9,16,148	7,56,918	9,04,418
Total expenditure	23,24,905	27,62,546	30,17,027	32,47,452

TABLE XIV

Police Statistics, Punjab (as now constituted)

	1881.	1891.	1901.	1904.
Provincial and Ferry Police.				
Superintendents and assistant superintendents	47	53	51	56
Inspectors	44	42	43	49
Sub-inspectors	407	463	401	526
Head constables	1,603	1,666	1,689	1,814
Constables	10,073	9,720	9,767	10,426
Municipal Police.				
Inspectors	6	6	8	8
Sub-inspectors	17	27	34	37
Head constables	339	388	432	448
Constables	3,451	3,538	3,639	3,791
Town watchmen	...	104	124	138
Cantonment Police.				
Inspectors	...	4	4	4
Sub-inspectors	2	5	5	6
Head constables	28	58	60	69
Constables	391	518	531	574
Military Police.				
Commandants and sub-commandants	...	...	3	4
Native officers	Not available	Not available.	37	14
Non-commissioned officers and men	...	...	245	606
Railway Police.				
Deputy and assistant superintendents	...	...	1	3
Inspectors	5	5	10	10
Sub-inspectors	13	13	23	26
European platform sergeants	...	...	9	18
Head constables	80	90	200	221
Constables	620	681	957	1,108
Chaukīdārs	84	84	...	7
Rural Police.				
Daffadars and *chaukīdārs*	...	...	...	29,645
Total expenditure	Rs. 32,23,323	Rs. 32,75,278	Rs. 33,45,684	Rs. 38,62,429

	Average of five years ending 1901 (old Province).	1904 (new Province).
Statistics of cognizable crime.		
Number of cases reported	58,229	85,365
Number of cases decided in the criminal courts	37,397	43,313
Number of cases ending in acquittal or discharge	6,552	12,796
Number of cases ending in conviction	28,957	30,517

TABLE XV

Jails Statistics, Punjab

	1881.	1891.	1901.	1904.
Number of Central jails	2	3	4	3
Number of District jails	28	25	24	25*
Number of subsidiary jails (lock-ups)	17	20	19	16
Average daily jail population:—				
(*a*) Male prisoners:				
In Central jails .	3,488	2,996	6,406	4,860
In other jails .	8,645	8,033	7,082	6,885
(*b*) Female prisoners:				
In Central jails .	...	...	1	4
In other jails .	512	328	327	270
Total	12,645	11,357	13,816	12,019
Rate of jail mortality per 1,000 . .	62.87	28.26	26.64	19.79
Expenditure on jail maintenance . .	Rs. 7,41,503	Rs. 7,29,382	Rs. 8,98,117	Rs. 7,59,146
Cost per prisoner .	58-10-0	64-4-0	65-0-0	64-13-0
Profits on jail manufactures . . .	1,19,953	1,97,678	1,24,834	1,09,658
Earnings per prisoner .	10-3-0	18-4-0	10-0-0	10-5-0

* Including female jail at Lahore.

TABLE XVI. Colleges, Schools, and Scholars, Punjab

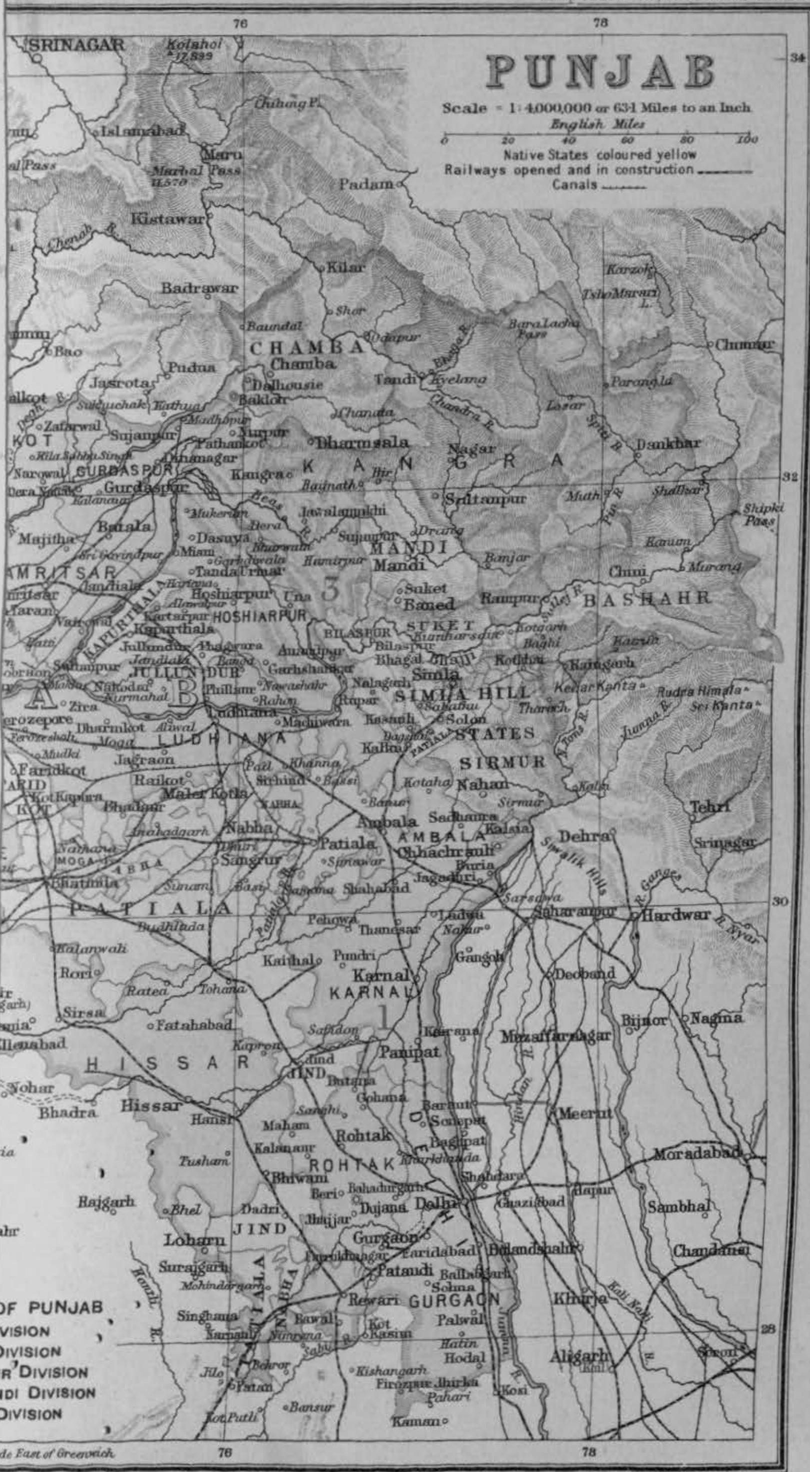
	1883-4.			1890-1.			1900-1.			1903-4.		
	Number of institutions.	Scholars.		Number of institutions.	Scholars.		Number of institutions.	Scholars.		Number of institutions.	Scholars.	
		Males.	Females.		Males.	Females.		Males.	Females.		Males.	Females.
Public.												
Arts colleges	2	152	...	7	468	...	12	1,245	...	15	1,360	...
Professional colleges	1	57	...	2	199	...	2	233	11	3	486	8
Secondary schools:—												
High	25	912	...	48	12,708	511	106	25,199	853	110	26,555	962
Middle	204	5,107	20	215	29,386	1,095	272	35,576	1,822	269	38,143	1,849
Primary schools	1,882	102,876*	10,358*	1,917	77,617	8,907	2,530	98,369	11,852	2,822	109,343	13,705
Training schools	10	206	191	4	267	...	5	256	...	5	248	...
Other special schools	6	300	19	7	773	9	15	2,013	154	22	2,012	244
Private.												
Advanced	...	...	...	794	9,408	...	292	5,108	...	354	5,351	43
Elementary	...	...	...	6,518	83,780	12,124	3,317	46,540	7,349	4,347	58,756	12,565
Total	2,130	109,610	10,588	9,512	214,606	22,646	6,551	214,539	22,041	7,947	242,254	29,376

* Including scholars reading in the primary department of secondary schools.

TABLE XVII

STATISTICS OF HOSPITALS, LUNATIC ASYLUMS, AND VACCINATION, PUNJAB

	1881.	1891.	1901.	1904.
Hospitals, &c.				
Number of civil hospitals and dispensaries	170	206	246	263
Average daily number of—				
(*a*) In-patients	1,236	1,472	1,711	1,924
(*b*) Out-patients	8,682	13,526	19,897	21,538
Income from—				
(*a*) Government payments Rs.	59,724	48,391	66,144	59,019
(*b*) Local and municipal payments Rs.	2,33,582	4,06,063	5,05,042	5,53,765
(*c*) Fees, endowments, and other sources Rs.	21,835	30,964	58,749	88,376
Expenditure on—				
(*a*) Establishment Rs.	1,63,437	2,38,612	3,17,249	3,46,700
(*b*) Medicines, diet, buildings, &c. Rs.	1,44,919	2,40,368	3,18,800	3,30,507
Lunatic Asylums.				
Number of asylums	2	2	1	1
Average daily number of—				
(*a*) Criminal lunatics	40	50	109	111
(*b*) Other lunatics	273	278	382	443
Income from—				
(*a*) Government payments Rs.	31,546	31,721	54,289	60,636
(*b*) Fees and other sources Rs.	6,284	19,660	17,203	12,666
Expenditure on—				
(*a*) Establishment Rs.	16,167	14,987	20,376	28,200
(*b*) Diet, buildings, &c. Rs.	21,063	36,394	51,116	45,102
Vaccination.				
Population among whom vaccination was carried on	...	19,629,722	20,734,248	20,293,834
Number of successful operations	...	653,300	629,825	632,240
Ratio per 1,000 of population	...	33·28	30·38	31·15
Total expenditure on vaccination Rs.	...	62,187	87,459	92,017
Cost per successful case Rs.	...	0-1-7	0-2-3	0-2-4


PUNJAB
Scale = 1:4,000,000 or 63·1 Miles to an Inch
English Miles
0 20 40 60 80 100
Native States coloured yellow
Railways opened and in construction
Canals
76
78
34
32
30
28
SRINAGAR
Islamabad
Kistawar
Badrawar
Padam
Kilar
CHAMBA
Chamba
Dalhousie
Pathankot
Gurdaspur
GURDASPUR
Batala
Majitha
AMRITSAR
Dharmsala
KANGRA
Kangra
Nagar
Sultanpur
Dankhar
Chini
BASHAHR
Rampur
MANDI
Mandi
Suket
SUKET
Hoshiarpur
HOSHIARPUR
Una
Kapurthala
KAPURTHALA
Jullundur
JULLUNDUR
Phillaur
Ludhiana
LUDHIANA
Ferozepore
Zira
Jagraon
Raikot
Maler Kotla
Faridkot
Bilaspur
Simla
SIMLA HILL STATES
Kasauli
Solon
SIRMUR
Nahan
Rupar
Sirhind
Nabha
Patiala
PATIALA
Sangrur
Ambala
AMBALA
Jagadhri
Kalsia
Dehra
Tehri
Srinagar
Hardwar
Saharanpur
Deoband
Thanesar
Pehowa
Kaithal
Karnal
KARNAL
Panipat
Sirsa
Fatahabad
HISSAR
Hissar
Hansi
Jind
JIND
Rohtak
ROHTAK
Bhiwani
Dadri
Loharu
Delhi
DELHI
Gurgaon
GURGAON
Rewari
Pataudi
Palwal
Hodal
Ballabgarh
Farukhnagar
Sohna
Meerut
Muzaffarnagar
Bijnor
Nagina
Moradabad
Sambhal
Bulandshahr
Ghaziabad
Chandausi
Khurja
Aligarh
Kosi
Firozpur Jhirka
Kaman
Bhadra
Nohar
Rajgarh
Narnaul
OF PUNJAB
IVISION
DIVISION
UR DIVISION
INDI DIVISION
DIVISION
itude East of Greenwich

Punnāta. — An ancient kingdom in the south-west of Mysore, with its capital at Kitthipura, now Kittūr, on the Kabbani. It was a 'six thousand' province, and was absorbed into the Ganga kingdom in the fifth century. In the fourth century B.C., Bhadrabāhu, the Jain leader, who is traditionally said to have been accompanied by Chandragupta, and who died at Sravana Belgola, directed the migration he had conducted to the South to proceed to Punnāta, when he found that his own end was approaching. It is mentioned as *Pounnata* by Ptolemy, who adds regarding it 'where is beryl.'

Puntāmba.—Town in the Kopargaon *tāluka* of Ahmadnagar District, Bombay, situated in 19° 46′ N. and 74° 37′ E., on the Godāvari, 12 miles south-east of Kopargaon town, and on the Dhond-Manmād Railway. Population (1901), 5,890, including a hamlet of 1,745. The traders are Mārwāris and Brāhmans. Puntāmba has fourteen modern temples, and two flights of steps or *ghāts* to the Godāvari, one built by Ahalyā Bai, the great temple-building princess of Indore (1767-95), and the other by one Shivrām Dumal. The chief temple dates from the middle of the seventeenth century and belongs to Changdev, a famous saint said to have had 1,400 disciples.

Pur (1).—Ancient town in the Bhīlwāra district of the State of Udaipur, Rājputāna, situated in 25° 18′ N. and 74° 33′ E., about 72 miles north-east of Udaipur city, and about 7 miles south-west of Bhīlwāra station on the Rājputāna-Mālwā Railway. Population (1901), 4,498. A primary school is attended by 34 boys. Garnets are found in the vicinity. The Porwāl Mahājans are said to take their name from this place.

Pur (2).—Town in the District and *tahsīl* of Muzaffarnagar, United Provinces, situated in 29° 39′ N. and 77° 51′ E., 16 miles north of Muzaffarnagar town, on the metalled road to Roorkee. Population (1901), 6,384. The town is surrounded by fine groves and contains some good brick houses, but the drainage is defective. In the low waste land close by an important camp is formed for artillery practice every cold season. The town is administered under Act XX of 1856, with an income of about Rs. 1,500.

Purandhar Tāluka.—*Tāluka* of Poona District, Bombay, lying between 18° 6′ and 18° 27′ N. and 73° 51′ and 74° 19′ E., with an area of 470 square miles. It contains one town, Sāsvad (population, 6,294), the head-quarters; and 90 villages. The population in 1901 was 72,716, compared with 89,100 in 1891. The density, 155 persons per square mile, is below the District average. The demand for land revenue in 1903-4 was 1·2 lakhs and for cesses Rs. 9,500. The *tāluka* is for the most part a hill tract. The ranges run north-east and south-west, dividing it into two valleys, along which flow almost parallel streams. A spur of the Western Ghāts, which forms the watershed between the Bhīma and the Nira, runs along the northern boundary.

Its chief peaks are those on which stand Malhārgarh fort and the temples of Bhuleshwar and Dhavaleshwar. A branch of the same spur fills the southern half of the *tāluka*, the only important peak being crowned by the twin forts of Purandhar and Vazīrgarh. The general level is about 2,800 feet above the sea; but the hill of Purandhar is nearly 1,700 feet higher. The Nīra, with its small feeder the Karha, and the Ganjauni are the principal streams. The Karha, from the lowness of its banks, is of great use to landholders, who hold back its water by means of dams, and raise it with lifts. The Nīra water-works command a large area of the *tāluka*. Besides 1,038 wells for drinking purposes, about 1,677 wells are used for irrigation. The raw sugar of Purandhar is much prized for its quality, which is said to be due to the peculiar practice of keeping the cane in the ground for eighteen months. The cane is planted in May or June, and cut in November or December of the following year. The height above the sea, the unfailing water-supply, and the woody valleys combine to make Purandhar one of the pleasantest and healthiest parts of the District. The annual rainfall averages 23 inches. The western branch of the Southern Mahratta Railway traverses the *tāluka*.

Purandhar Hill.—Once a fortress, and now a sanitarium for European troops, in the Poona division of the Western Command, in the Purandhar *tāluka* of Poona District, Bombay. It really consists of two separate hill forts, Purandhar and Vazīrgarh, situated in 18° 17′ N. and 73° 59′ E., 20 miles south-east of Poona city. Population (1901), 944. The income and expenditure of the cantonment fund in 1903–4 were each Rs. 1,800. The highest point of the mountain of Purandhar is upwards of 1,700 feet above the plain, and 4,472 feet above sea-level. Purandhar is larger, higher, and more important than Vazīrgarh. The summit of both hills is crowned with masonry ruins studded here and there with bastions. Purandhar is varied by two elevations, on the higher of which, the loftiest point in the range, is a temple to Siva. The hill on which this temple stands is part of the upper fort of Purandhar. On the northern face of the hill, 300 feet below the temple and upwards of 1,000 feet above the plain, runs a level terrace on which stands the military cantonment, flanked on the east by the barracks, and on the west by the hospital. The northern edge of the terrace is defended by a low wall with several semicircular bastions and a gate flanked by two towers. This is called the Māchi or 'terrace' fort. At the foot of the hill is a well-built resthouse, from which the ascent leads by a wide, easy road. From the middle of the cantonment a winding road, 830 yards long, runs towards the upper fort, ending in a flight of rude stone steps which wind between a loopholed wall of masonry and the basalt cliff on which the fort stands. A sharp turn leads suddenly to the Delhi Gate, flanked by solid

bastion towers. The defences, like most of the hill forts in this part of the country, are of perpendicular rock, weakened rather than strengthened by curtains and bastions of masonry.

The earliest known mention of Purandhar is in the reign of the first Bahmani king, Alā-ud-dīn Hasan Gangū (1347-58), who obtained possession of almost the whole of Mahārāshtra, from the Purandhar range to the Cauvery, and fortified Purandhar in 1350. During the early rule of the Sultāns of Ahmadnagar Purandhar was among the forts which were reserved by the government and never entrusted to *jāgīrdārs* or estate-holders. The fort of Purandhar passed to Mālojī, the grandfather of Sivajī, when Bahādur Nizām Shāh of Ahmadnagar (1596-1600) granted him Poona and Supa. In 1665 it was invested by the forces of Aurangzeb, under the command of Rājā Jai Singh, the famous Rājput general, assisted by the Afghān Dilāwar Khān. Though the defence by Bājī Prabhu, a Deshpānde of Mahād, who was the commandant of the fort, was obstinate, Sivajī appears to have been so intimidated at the prospect of the fall of Purandhar that he surrendered it, together with Sinhgarh, and entered the service of Aurangzeb. He revolted, however, and recaptured Purandhar in 1670. After the power of the Peshwās at Poona had superseded that of the descendants of Sivajī, Purandhar was the usual stronghold to which the Peshwās retreated when unable to remain in safety at their capital. Here, in 1776, was concluded a treaty between the British Government and the Marāthā States; but its conditions were never fulfilled, being overruled by the subsequent Treaty of Sālbai in 1782 between the British Government and Sindhia, at the close of the second Marāthā War. In 1818 Purandhar was invested by a British force under General Pritzler. On March 14 a mortar battery opened on it; and on the 15th Vazīrgarh admitted a British garrison. As Vazīrgarh commanded Purandhar, the commandant had to accept the terms given to that garrison, and the British colours were hoisted at Purandhar on March 16, 1818. The fort commands a passage through the hills, called the Purandhar *ghāt*.

Pūranpur Tahsīl.—North-eastern *tahsīl* of Pīlībhīt District, United Provinces, conterminous with the *pargana* of the same name, lying between 28° 21′ and 28° 50′ N. and 79° 56′ and 80° 27′ E., with an area of 513 square miles. Population fell from 95,205 in 1891 to 89,084 in 1901. There are 242 villages, but no town. The demand for land revenue in 1903-4 was Rs. 93,000, and for cesses Rs. 15,000. The density of population, 174 persons per square mile, is very low. This *tahsīl* forms one of the most backward tracts in the United Provinces. Along or near the north-eastern border the SĀRDĀ forms the Nepāl frontier, and is joined by the Chaukā, which has a channel roughly parallel to that of the Sārdā. The Mālā swamp divides Pūran-

pur from the Pīlībhīt *tahsīl*, and a stunted forest forms a horseshoe-shaped border round three sides of the *tahsīl*. The central portion consists of a sandy plain, which easily falls out of cultivation; and the whole area is distinguished by its unhealthiness, the poverty of its inhabitants, the scarcity of cultivators, and their readiness to migrate. Since 1883 many villages have been subject to a light assessment revised every year, or every five years, according to the instability of cultivation. In 1903-4 the area under cultivation was only 178 square miles, of which 18 were irrigated.

Purī District.—Southern District in the Orissa Division of Bengal, lying between 19° 28′ and 20° 26′ N. and 84° 56′ and 86° 25′ E., with an area of 2,499[1] square miles. It is bounded on the north and north-east by Cuttack District; on the south-east and south by the Bay of Bengal; on the west by the Madras District of Ganjām; and on the north-west by the Tributary States of Nayāgarh, Ranpur, and Khandparā.

Physical aspects.

Its general shape is triangular, and it may be roughly divided into three tracts—west, central, and east. The western extends from the right bank of the Dayā river across the stony country of Dāndimāl and Khurdā, till it rises into the hills of the Tributary States. A low range, beginning in Dompāra and running south-east in an irregular line towards the Chilka Lake, constitutes a watershed between this tract and the Mahānadī river. The most important peaks are in the Khurdā subdivision. On the north of the Chilka Lake they become bold and very varied in shape, and throw out spurs and promontories into the lake, forming island-studded bays, with fertile valleys running far inland between their ridges. The middle and eastern divisions consist entirely of alluvial plains, the south-western part of the Mahānadī delta. They are watered by a network of channels, through which the most southerly branch of that river, the Koyākhai, finds its way to the sea. The middle tract comprises the richest and most populous portion of the District; the eastern is less thickly peopled and in the extreme east loses itself in the jungles around the mouths of the Devī. The following scheme briefly shows the river system of the District:—

Koyākhai	Kushbhadrā	Prāchī	Kushbhadrā	Bay of Bengal.
		Kushbhadrā		
	Bhārgavī	Bhārgavī	Bhārgavī	Chilka Lake.
		Nūn	Dayā	
		Dayā		

Only one of these rivers, the Kushbhadrā, reaches the sea. It follows a very winding course and is of little value for navigation. Its bed has

[1] The area shown in the *Census Report* of 1901 was 2,472 square miles; that given above is taken partly from a report of the District Magistrate and partly from p. 47 of the *Orissa Settlement Report*.

silted up, and in seasons of heavy rainfall its floods devastate the surrounding country. The three rivers most important to the people of Purī are the Bhārgavī, the Dayā, and the Nūn, which all enter the Chilka Lake, after running widely diverse courses. During the dry season they die away into long shallow pools in the midst of winding stretches of sand, but in the rains they come down with a great rush of water that often threatens to burst the banks and inundate the surrounding country. Their banks are generally abrupt, and in many parts are artificially raised and strengthened as a protection against floods. The coast-line consists of a belt of sandy ridges, varying from 4 miles to a few hundred yards in breadth. It contains no harbours of any importance. Purī port is simply an unprotected roadstead, open from the middle of September to the middle of March. During the remainder of the year the surf does not allow of vessels being laden or unladen. The principal lakes are the CHILKA and the Sar. The latter is a backwater of the river Bhārgavī, 4 miles long by 2 broad. It has no outlet to the sea, from which it is separated by sandy ridges.

Some of the hills are composed of compact gneiss, most of the others being of garnetiferous rock with occasional bands of quartzose gneiss. Laterite forms a raised terrace-like plain around the hills, except a few far out in the alluvium, and it probably underlies the whole of the recent alluvium which covers the eastern portion of the District. On the southern bank of the Chilka Lake, in one or two places at an elevation of 20 to 30 feet above the present flood-level, is found a bed of mud with estuarine shells, evidencing an elevation of the land since the comparatively recent period when the Chilka Lake had a freer communication with the sea than it now has. A similar deposit occurs at some places on the spit between the Chilka Lake and the sea [1].

In the Mahānadī delta, swampy places near the sea have on the banks of rivers and creeks the vegetation of a mangrove forest. Where sand-dunes intervene between the sea and the cultivated land behind, an equally characteristic littoral vegetation is met with, the principal species of which are *Spinifex*, *Hydrophylax*, and *Geniosporum prostratum*. The cultivated land has the usual rice-field weeds, while ponds and ditches are filled with floating water-weeds or submerged water-plants. Near human habitations shrubberies of semi-spontaneous shrubs are common, and are loaded with a tangled mass of climbing *Convolvulaceae*. The arborescent portion of these village shrubberies

[1] *Memoirs, Geological Survey of India*, vol. i, pt. iii, 'The Geological Structure and Physical Features of the Districts of Bānkurā, Midnapore, and Orissa'; and *Records, Geological Survey of India*, vol. v, 'Sketch of the Geology of Orissa,' by W. T. Blanford.

includes the red cotton-tree (*Bombax malabaricum*,) *jiyal* (*Odina Wodier*), *Tamarindus indica*, *Moringa pterygosperma*, *pīpal* (*Ficus religiosa*), banyan (*Ficus bengalensis*), and the palms *Borassus flabellifer* and *khajūr* (*Phoenix sylvestris*). In the north-west of the District some forests are under the control of the Forest department; these are described below.

Small game is plentiful, but in the open part of the country the larger wild beasts have been nearly exterminated.

Purī District is directly on the track of the cyclonic storms which cross Orissa frequently during the monsoon season, but on the whole the sea-breezes ensure an equable climate. In April and May the average maximum temperature is 89°. The mean temperature falls from 86° in the hot months to 84° in the monsoon season and to 77° in February. Cyclonic storms occasionally occur in the north of the Bay in May, and with these storms weather of the south-west monsoon type prevails. The humidity ranges from 75 per cent. in December to 86 per cent. in August. The annual rainfall averages 58 inches, of which 8·4 inches fall in June, 10·9 in July, 12·1 in August, and 10·7 in September.

The river channels near the coast can only carry off a small proportion of the flood-water, which enters the low country through the Koyākhai, and the District is liable to disastrous floods. In twenty-four of the thirty-two years ending 1866, such serious floods occurred as to require remissions of revenue exceeding 4 lakhs, while more than 3½ lakhs was expended by Government on embankments and other protective works. In 1866 more than 412,000 persons were driven by the floods from house and home. The years 1872, 1892, and 1896 were also memorable for high floods, those of 1892 being remarkable for their severity and those of 1896 for their duration. At such times the embankments are of little use, as they are either breached or overtopped. Proposals have been made to limit the floods entering the Koyākhai, but the cost of the schemes hitherto formulated is prohibitive.

History.

The general history of Purī is that of ORISSA. The only two noteworthy political events that have taken place since the District passed to the British, together with the rest of the province in 1803, are the rebellion of the Rājā of Khurdā in 1804 and the rising of the *paiks* in 1817. The Rājā of Khurdā, although stripped of a considerable portion of his territory, had been left by the Marāthās in comparative independence within his own fort. When the British entered the province, the Rājā passively espoused their cause, and the decision of the Commissioners to retain the *parganas* taken by the Marāthās was acquiesced in by him. But after the European troops had returned to Madras and the native force

at Cuttack had been considerably reduced by the necessity of establishing detached outposts in different parts of the country, the Rājā's mob of *paiks* and peons made a raid on the villages in the vicinity of Piplī. Troops were summoned from Ganjām and a detachment was quickly dispatched from Cuttack. The rebels, driven out of Piplī, retreated to the fort at Khurdā, followed by our troops. In three weeks the approaches, which were stockaded and fortified with strong masonry barriers, were carried by storm. The Rājā made his escape, but surrendered a few days later. His territory was confiscated; and he was kept in confinement until 1807, when he was released and allowed to reside in Purī town, and an allowance was made for his maintenance.

In 1817 the *paiks* or landed militia rose in open rebellion against the oppressions suffered at the hands of the underlings to whom was entrusted the collection of the revenue, and also against the tyrannies of a venal police. The rebels, led by one Jagabandhu, attacked the police station and Government offices at Bānpur, where they killed upwards of a hundred men and carried off about Rs. 30,000 of treasure. The civil buildings at Khurdā were burnt to the ground, and another body of the insurgents advanced into the Lembai *pargana* and there murdered one of the native officials. The authorities at Cuttack at once dispatched a force, one detachment of which marched direct to Khurdā, and another to Piplī. After some severe fighting British authority soon re-established itself everywhere. The Rājā, who had joined the rebels, was captured in Purī town, as he was on the point of taking flight, and was removed to Calcutta and placed in confinement in Fort William, where he died in November, 1817. The country was gradually restored to order and tranquillity; and at the present day Khurdā is a profitable Government property, the cultivators being a contented and prosperous class. The father of the present Rājā of Purī was convicted in 1878 of murder and sentenced to penal servitude for life. The present Rājā is the hereditary superintendent of the temple of Jagannāth, but has delegated all his powers as such to an experienced Deputy-Magistrate-Collector for a period of five years.

The District contains numerous antiquities of surpassing interest, of which the most important are the great temple of Jagannāth in PURĪ TOWN, the caves and rock sculptures at KHANDGIRI and Udayagiri, the Lingarāj temple and other remains at BHUBANESWAR, the black pagoda at KONĀRAK, and the Asoka inscription at DHAULI.

Population.

The population of the District increased from 769,779 in 1872 to 888,592 in 1881, 944,998 in 1891, and 1,017,284 in 1901. The public health has not been good since 1891. Cholera is imported annually by pilgrims, fever is prevalent during the cold season, while small-pox occasionally appears in a virulent

form. The principal statistics of the Census of 1901 are shown below:—

Subdivision.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Purī	1,528	1	1,889	658,048	431	+ 7·2	49,644
Khurdā	971	...	1,212	359,236	370	+ 8·4	23,023
District total	2,499	1	3,101	1,017,284	407	+ 7·6	72,667

The only town is PURĪ, the head-quarters. The density for the whole District is lower than it would otherwise be owing to the inclusion of the area of the Chilka Lake, the population of the head-quarters *thāna* in which the greater part of it is situated being only 254 persons per square mile, against 753 in Piplī. Pilgrims were exceptionally numerous at the time when the last Census was taken, but apart from this the ebb and flow of population is very slight. The vernacular of the District is Oriyā. Buddhism, for ten centuries the prevailing religion of Orissa, has left no traces beyond the cave-dwellings of the hermits and some recently deciphered inscriptions. Sun-worship was one of the principal forms into which Buddhism disintegrated, and its most exquisite memorial is the temple of Konārak. At the present day no less than 98·2 per cent. of the population are Hindus, and 1·7 per cent. Muhammadans.

Chāsas, the chief cultivating caste of Orissa, number 300,000, Brāhmans 101,000, Bauris 84,000, Gauras 53,000, Guriās 26,000, and Karans and Kewats 33,000 each. The Guriās are the confectioner and the Karans the writer caste of Orissa. Of the less common castes two hill tribes, the Khonds and Savaras, have a few representatives, Kumutis are a caste practically confined to Purī and the Orissa Tributary States, and Daitās and Kāhālias are small castes peculiar to this District. Christians number 1,078, of whom 913 are natives; the only mission is the Baptist Mission, with stations at Purī town and six other places. Of the total population, 60 per cent. are supported by agriculture, 16·5 per cent. by industries, 0·4 per cent. by commerce, and 4·0 by the professions.

Agriculture.

The greater part of the head-quarters subdivision is subject to floods; and except in the west, where the subdivision encroaches on the laterite uplands of Khurdā, and along the sea-shore in the south and east, where the sand forms a belt of varying width, the soil is of the normal alluvial type, consisting of every variety of mixture from almost pure sand to almost pure mud. In the north sandy loams are most common, while in the lower levels

of the southern *parganas* black soils are more general. The surface of the Khurdā subdivision is composed of the detritus of metamorphic rock, sandstone, and vegetable mould, and is therefore for the most part fertile.

The chief agricultural statistics for 1903–4 are shown below, areas being in square miles:—

Subdivision.	Total.	Cultivated.	Cultivable waste.	Forests.
Purī . . .	1,528	636	26	368
Khurdā . . .	971	536	222	113
Total	2,499	1,172	248	481

Rice is the staple food-grain, covering 1,030 square miles, or 87 per cent. of the cultivated area. The most important variety is the *sārad* or winter crop, which is grown on 923 square miles; early rice (*biāli*) and spring rice (*dālua*) are also cultivated, but the proportions are small. The winter rice, which is for the most part transplanted from seedlings, is divided into three classes, known as *bara*, *mājhlā*, and *laghu* according to the amount of water required. Pulses occupy 124 square miles, or 11 per cent. of the total cultivated area, the chief kinds being *kurthī*, *mūng*, and *bīrhi*. *Maruā* is grown in parts, chiefly as a second crop; and castor-oil, sugar-cane, cotton, indigo, *pān*, tobacco, and vegetables, though occupying small areas, possess some importance.

Cultivation has steadily extended since the settlement of 1837, except in a few tracts where it has been checked by the calamitous floods of recent years. Agricultural experiments have been set on foot in the Khurdā Government estate, but the ryots are slow to adopt improvements. Cow-dung is generally used as manure. During the ten years ending 1902, Rs. 48,000 was advanced under the Agriculturists' Loans Act and Rs. 25,000 under the Land Improvement Loans Act.

The cattle are similar to those found in the southern Districts of Lower Bengal. In the head-quarters subdivision about 4 per cent. of the total area in each village was set apart at the recent settlement for grazing purposes.

Irrigation is little resorted to, except for the spring rice and the February pulse crops. The water is derived from the Sar lake and various big reservoirs and tanks, and is raised either by a mat scoop, by a hollow tree-trunk (*jantā*), or by unglazed earthen pots fixed to a bamboo lever (*tendā*).

The forests of the Purī Forest division lie within what is technically known as the dry evergreen forest zone, and comprise *sāl* and mixed

forest. They consist of 110 square miles of 'reserved' and 371 square miles of 'protected' forests in the Khurdā Government estate. In the metamorphic region to the south-west the *sāl* (*Shorea robusta*) is seen at its best, its chief companions being *ablus* (*Diospyros melanoxylon*), *Careya arborea*, *āsan* (*Terminalia tomentosa*), and *Buchanania latifolia*. In the mixed forest the chief species are *Anogeissus latifolia*, *jiyal* (*Odina Wodier*), *kusum* (*Schleichera trijuga*), *Pterospermum suberifolium*, and *Dillenia Pentagyne*, while in the north-west *Hylia dolabriformis* (the ironwood tree of Pegu and Arakan) is extremely common. Of bamboos, *Bambusa arundinacea* and *Dendrocalamus strictus* abound. Climbers are numerous, the most noticeable being *Bauhinia Vahlii*, *Milletia auriculata*, *Entada scandens*, and *Combretum decandrum*. Teak is being planted with fair success. *Strychnos nux vomica* seed is collected by the department for sale, and *kamalagundi* powder (*Mallotus philippinensis*) is gathered as a dye. The total receipts of the Forest department in 1903–4 amounted to Rs. 39,000.

Laterite, lime, and sandstone are found in the Khurdā subdivision; but no quarries are regularly worked.

Tasar and cotton cloth, brass and bell-metal utensils, brass, gold, and silver ornaments, and wickerwork baskets are manufactured. Images of the Hindu gods are carved in stone, often with a considerable degree of skill. Coarse sugar is prepared from sugar-cane.

Trade and communications.

The chief exports are rice, gram, pulse, unrefined sugar, coco-nuts, brass, and silk; and the chief imports are raw cotton, cotton piece-goods, refined sugar, spices, nuts, iron, tobacco, kerosene oil, salt, and copper. Purī town, Satyabādī, Piplī, Bālkāti, Khurdā, and Bānpur are the centres of trade. Rice is shipped in considerable quantities from Purī for the Madras ports and for Colombo and Mauritius, the value of the trade to Colombo and Mauritius in 1903–4 being 6·55 lakhs. With this exception, nearly the whole of the external trade has been absorbed by the railway. During the rains some traffic is carried up and down the rivers in country boats. Trade is chiefly in the hands of people of the Brāhman, Teli, Guriā, and Tānti castes.

The East Coast section of the Bengal-Nāgpur Railway passes through the entire length of the Khurdā subdivision. A branch line 28 miles long conects Purī town with Khurdā Road station. The District is well supplied with roads, the principal being the pilgrim road from Cuttack to Purī, and the Cuttack-Ganjām road which traverses the Khurdā subdivision. These are linked together by two important cross roads; namely, the metalled road from Piplī to Khurdā, connecting these places with the railway at Khurdā Road station, and the Pātnaikā-Khurdā road. All these roads are metalled. Other important roads are those running westwards from Khurdā to the

Central Provinces, and the road from Mādhab to Purī via Gop, a continuation of the Cuttack District road, which takes off from the pilgrim road at Mādhab. The Cuttack-Purī and the Cuttack-Ganjām roads, with a length of 107½ miles, are maintained by the Public Works department; while 108 miles of metalled and 114 miles of unmetalled roads are under the control of the District board. The Kushbhadrā, Bhārgavī, and Dayā rivers are navigable for several months of the year. The most important ferries are those where the Ganjām and Purī trunk roads cross the large rivers.

Famine.

The greatest famine within living memory is that of 1866, which was felt with more intensity in Purī than in either Cuttack or Balasore. In 1865 the rice crop had utterly failed. The rainfall in the District averages about 58 inches; but in that year only 36·3 inches fell, of which 5·2 inches fell in September and none at all subsequently. The local supply of rice was wholly inadequate, and prices rose rapidly. Government was compelled to import rice; but in June, 1866, it was selling at 6 seers a rupee, and even when supplies of rice began to find their way into the District, the quantities received were so small that it was impossible to carry on the relief operations without a break. In August the widespread distress was aggravated by a severe inundation, and the mortality became appalling. The position began to improve in November, when large supplies of rice were received, but in certain tracts gratuitous relief had to be continued for many months longer. In October, 1866, it was reported that 210,866 deaths had occurred during the year. These figures, imperfect as they probably are, give a mortality of no less than 360 per 1,000. The total quantity of grain imported by Government into Purī in 1866 amounted to 47,383 maunds; of this, 16,626 maunds were gratuitously distributed and 5,940 were sold at cheap rates. A sum of Rs. 1,03,000 was expended by the Public Works department in providing work for the distressed.

Scarcities have since occurred in 1884, 1885, 1888, and 1897. During 1896 the rainfall was unseasonable and badly distributed, and some parts of the District were visited by an insect pest. The area affected was 365 square miles with a population of 102,000 persons, chiefly near the Chilka Lake. Relief operations were opened in February and closed in September, 1897. The total recorded mortality during this period was 4,231; Rs. 21,000 was spent on relief, of which Rs. 18,000 was contributed from charitable funds. The number of persons relieved was 42,455. In addition Rs. 15,000 was advanced to the Rājā of Pārikūd for the repairs of the embankments in his estate, and Rs. 18,000 was distributed in loans to the cultivators to enable them to sow their lands; Rs. 80,000 of revenue was remitted, and suspensions of the demand were granted to the extent of Rs. 65,000.

For administrative purposes the District is divided into two subdivisions, with head-quarters at PURĪ and KHURDĀ. The administrative staff at Purī, subordinate to the District Magistrate-Collector, consists of three Deputy-Magistrate-Collectors; the subdivisional officer of Khurdā is a Deputy-Magistrate-Collector, and he is assisted by a Deputy-Collector and a Sub-Deputy-Collector. An Inspector of salt is stationed at Purī, and a Deputy-Conservator of Forests at Khurdā.

Administration.

The District and Sessions Judge is also Judge of Cuttack and Balasore; the only other civil court is that of a Munsif at Purī, assisted occasionally by an additional Munsif from Cuttack. The criminal courts include those of the Sessions Judge, the District Magistrate, and the above-mentioned Deputy-Magistrates. The Oriyas are generally a law-abiding people, and organized crime by professional criminals is almost unknown; it has hitherto been confined to the occasional drugging and robbing of pilgrims on the road to Puri town, and infrequent dacoity.

Under British rule the first settlement of land revenue, excluding Khurdā, was made in 1804-5 on the basis of the assessment papers obtained from the record-keeper and *sadr kānungo* of the Marāthās. Purī at this time formed part of the southern division of Orissa, or the tract south of the Mahānadī. In 1837 a settlement was made for thirty years; this expired in 1867, but owing to the recent famine it was extended till 1897; a new settlement for thirty years was then made with effect from 1899, with a current demand of 3·77 lakhs. These figures, as already stated, exclude the Khurdā Government estate, the area of which is 1,013 square miles, of which all but 42 square miles constitute the Khurdā subdivision. The current settlement is for fifteen years from 1897; the demand from this estate is 3·27 lakhs. The total land revenue demand of the District in 1903-4 was 7·27 lakhs, of which Rs. 10,000 was payable by 3 permanently settled estates, 2·60 lakhs by 483 temporarily settled estates, and 4·57 lakhs by 4 estates held direct by Government. There are in many cases intermediate tenure-holders with quasi-proprietary rights, known as *mukaddams*, *padhāns*, *sarbarāhkārs*, and *pursethis*, who are survivals of the tenures existing before the first British settlement, described in the article on CUTTACK DISTRICT. The average area held by a ryot is about 2 acres, and the incidence of rent per acre is Rs. 1-10 in the Khurdā estate, and Rs. 1-11-7 in the remainder of the District, the average rate varying from Rs. 1-7-3 for non-occupancy ryots to Rs. 1-15-5 for settled and occupancy ryots; the rate on homestead lands is Rs. 6-9-8 per acre.

The following table shows the collections of land revenue and of total revenue (principal heads only), in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . . .	4,64	6,56	7,74	7,51
Total revenue . . .	6,44	9,16	11,41	11,77

Outside the municipality of PURĪ, the management of local affairs rests with the District board, to which subdivisional local boards are subordinate. In 1903–4 its income was Rs. 82,000, of which Rs. 35,000 was derived from rates; and the expenditure was Rs. 85,000, including Rs. 40,000 spent on public works and Rs. 30,000 on education.

The District contains 6 police stations and 19 outposts. In 1903 the force subordinate to the District Superintendent consisted of 3 inspectors, 32 sub-inspectors, 31 head constables, and 380 constables; there was, in addition, a rural police force of 211 *daffadārs* and 2,149 *chaukīdārs*. The District jail at Purī has accommodation for 126 prisoners, and a subsidiary jail at Khurdā for 10.

In 1901, 6·2 per cent. of the population (13·9 males and 0·4 females) could read and write. The number of pupils under instruction was about 20,000 in 1884, 20,964 in 1892–3, and 20,902 in 1900–1. In 1903–4, 24,342 boys and 2,442 girls were at school, being respectively 32·0 and 3·1 per cent. of the children of school-going age. The number of educational institutions, public and private, in that year was 2,033, including 22 secondary, 1,384 primary, and 627 special schools. The chief educational institution is the Purī District school. For the education of aborigines and depressed tribes four lower primary schools are maintained. The expenditure on education was Rs. 1,22,000, of which Rs. 17,000 was met from Provincial funds, Rs. 30,000 from District funds, Rs. 1,150 from municipal funds, and Rs. 62,000 from fees.

In 1903 the District contained 11 dispensaries, of which 8 had accommodation for 150 in-patients; the cases of 53,000 out-patients and 1,200 in-patients were treated, and 2,000 operations were performed. The expenditure was Rs. 17,000, of which Rs. 1,600 was met from Government contributions, Rs. 12,000 from Local and Rs. 4,000 from municipal funds, and Rs. 700 from subscriptions.

The District often suffers severely from small-pox, the average death-rate from this cause during the last quinquennium being 2·24 per 1,000. Vaccination is compulsory only in Purī municipality. The people generally are averse to vaccination, but in spite of this the number of successful vaccinations rose in 1903–4 to 48,000, or 49 per 1,000 of the population.

[B. K. Ghosh, *History of Purī with an Account of Jagannāth* (Cuttack, 1848); W. W. Hunter, *Orissa* (1872), and *Statistical Account of Bengal*, vol. xviii (1877); W. H. Lee, *History of Puri* (Calcutta,

1898), and *Inscriptions in the District of Puri* (Cuttack, 1898); J. Taylor, *Settlement Report of Khurda Estate* (Calcutta, 1900); S. L. Maddox, *Settlement Report of Orissa* (Calcutta, 1900).]

Purī Subdivision.—Head-quarters subdivision of Purī District, Bengal, lying between 19° 28′ and 20° 23′ N. and 85° 8′ and 86° 25′ E., with an area of 1,528 square miles. The population in 1901 was 658,048, compared with 613,575 in 1891, the density being 431 persons per square mile. The subdivision forms the south-western section of the Mahānadī delta, and consists almost entirely of alluvial country stretching from the Eastern Ghāts to the Bay of Bengal. It contains one town, PURĪ (population, 49,334), its head-quarters; and 1,889 villages. The famous temple of Jagannāth is situated in Purī town, while other important antiquities are the black pagoda at KONĀRAK and the Asoka inscription at DHAULI. The Chilka Lake in the south-west corner of the subdivision occupies about one-fifth of its total area.

Purī Town.—Head-quarters of Purī District, Bengal, situated in 19° 48′ N. and 85° 49′ E., on the coast. It is celebrated as the site of the great temple of Jagannāth, by which name it is commonly known. The population, which was 22,695 in 1872 and 22,095 in 1881, increased to 28,794 in 1891 and to 49,334 in 1901. During the great festivals the population is swollen by many thousands of pilgrims, and on the occasion of the Census of 1901 over 17,000 were present in the town. The ordinary resident population is therefore about 32,000. The number of houses in 1901 was 7,521. Purī was constituted a municipality in 1881. The income during the decade ending 1901–2 averaged Rs. 44,000, and the expenditure Rs. 36,000. In 1903–4 the income was Rs. 61,000, of which Rs. 19,000 was derived from a tax on houses and lands (or property tax) and Rs. 12,000 from a conservancy rate; and the expenditure was Rs. 47,000.

Purī is a city of lodging-houses, being destitute alike of manufactures or commerce on any considerable scale. The streets are mean and narrow, with the exception of the principal avenue which leads from the temple to the country house of Jagannāth. The houses are built of wattle covered with clay, raised on platforms of hard mud about 4 feet high, and many of them gaily painted with Hindu gods or with scenes from the Sanskrit epics. The intervening sandhills between the town and the beach intercept the drainage, and aggravate the diseases to which the overcrowding of the pilgrims gives rise. A number of measures have recently been taken for the improvement of the sanitary condition of the town. To prevent overcrowding, iron sheds and resthouses have been erected for the accommodation of excess pilgrims; arrangements are being made to shelter indigent lepers; steps have been taken to clean the Swetganga tank by means of a pulsometer pump, and the water is used to flush the drains along the Baradand;

and a complete drainage scheme for the town is in contemplation. The opening of the railway has greatly mitigated the dangers of the journey. Formerly thousands of pilgrims used to die annually upon the road from exhaustion and want of food. But now pilgrims visit Purī at all times during the year, and this has affected the number that flock to the town during the two chief festivals. Moreover, many pilgrims now hasten away as soon as the gods have left the temple and the dragging of the cars has commenced. For the poorer pilgrims who have to make the journey on foot, pilgrim hospitals have been opened along the main lines of road, and a medical patrol has been established in the vicinity of the holy city. The great difficulty has been to check the overcrowding in Purī town, but much good has resulted from the working of the Purī Lodging-house Act (Bengal Act IV of 1871).

The Government offices stand on the beach, with a sandy ridge between them and the town. The site is salubrious, and the monsoon blows so fresh and cool from the sea that in former days the officials from Cuttack used regularly to come to Purī during the hot season. During the rains it is less healthy. The District jail has accommodation for 126 prisoners, who are employed on oil-pressing and the manufacture of coir yarn. The chief educational institutions are the District school, to which is attached a hostel for non-resident students, the Haras Chandi Sahi middle school for the sons of the *pāndās* or priests of Jagannāth, and the Purī Sanskrit school.

The shrine of Jagannāth is the region of pilgrimage beloved of Vishnu, known to every hamlet throughout India as the abode of Jagannāth, the 'Lord of the World.' According to tradition, Jagannāth made his first historical appearance in the year A. D. 318, when the priests fled with the sacred image and left an empty city to Rakta Bāhu and his buccaneers. For 1½ centuries the idol remained buried in the western jungles, till a pious prince drove out the foreigners and brought back the deity. Three times it has been buried in the Chilka Lake; and whether the invaders were pirates from the sea or the devouring cavalry of Afghānistān, the first thing that the people saved was their god. The true source of Jagannāth's undying hold upon the Hindu race consists in the fact that he is the god of the people. The poor outcast learns that there is a city on the far eastern shore, in which priest and peasant are equal in the presence of the 'Lord of the World.' In the courts of Jagannāth and outside the Lion Gate thousands of pilgrims every year join in the sacrament of eating the holy food, the sanctity of which overleaps all barriers of caste, for a Purī priest will receive food even from a low-caste Hindu. The worship of Jagannāth aims at a catholicism which embraces every form of Indian belief and every Indian conception of the deity. He is Vishnu under whatever form and by whatever title men call upon his

name. The fetishism of the aboriginal races, the nature-worshi the Vedas, and the lofty spiritualism of the great Indian reform have alike found refuge here. Besides thus representing Vishn all his manifestations, the priests have supe added the worship o other members of the Hindu trinity in their various shapes, and disciple of every Hindu sect can find his beloved rites and some of his chosen deity within the sacred precincts.

It has been supposed that the worship of Jagannāth is an adapt by the Brāhmans of some Buddhist cult. Purī probably was original place where the famous tooth relic of Buddha was worshipped and it is noticeable that the wooden image of Jagannāth contain a certain article, about which the priests maintain perfect silence, and which is never replaced by another new piece, whenever the image is renewed. The crude form of the images of Jagannāth, his brother Balarām, and his sister Subhadrā, with their round shapeless heads and their arms represented by stumps only, strangely resembles the Buddhist symbol of a wheel supported by a *trisūla* or trident. The abolition of caste rules in regard to the *mahāprasād*, or the sacred food cooked in the temple, recalls the protest of Buddhism against caste prejudices. In some modern representations of the ten incarnations of Vishnu, the place of the ninth or Buddha incarnation (*avatār*) is occasionally occupied by the figure of Jagannāth.

The temple appears to have been built by king Choda Ganga in the second half of the twelfth century, not, as tradition has it, by Ananga Bhīma. It soon became famous, and the devotion of centuries has made Jagannāth a very wealthy god; the income was estimated in 1877 at more than 7 lakhs, though the temple authorities deny that it reaches anything like so high a figure and allege that it is only a little over one lakh. The immediate attendants on the god are divided into 36 orders and 97 classes, at the head of whom is the Rājā of Khurdā, the representative of the ancient royal house of Orissa, who takes upon himself the lowly office of sweeper to Jagannāth. Decorators of the idol, priests of the wardrobe, cooks, dancing-girls, grooms, and artisans of every sort follow. A special department keeps up the temple records, and affords a literary asylum to a few learned men.

The sacred enclosure is nearly in the form of a square, 65[illegible] feet long by 630 broad. The interior is protected from profane eyes by a massive stone wall 20 feet high. Within rise about 120 temples dedicated to the various forms in which the Hindu mind has imagined its god. But the great pagoda is the one dedicated to Jagannāth. Its conical tower rises like an elaborately carved sugar-loaf, 192 feet high and surmounted by the mystic wheel and flag of [illegible]. Outside the principal entrance, or Lion Gate, in the square where the pilgrims chiefly throng, is an exquisite monolithic pillar, which stood for

